Market Feedback: Evidence from the Horse's Mouth

Itay Goldstein
Wharton School
University of Pennsylvania
itayg@wharton.upenn.edu

Bibo Liu
PBC School of Finance
Tsinghua University
liubb@pbcsf.tsinghua.edu.cn

Liyan Yang
Rotman School of Management
University of Toronto
liyan.yang@rotman.utoronto.ca

This version: December 2021

Market Feedback: Evidence from the Horse's Mouth

Abstract

We surveyed 3,626 Chinese public firms to examine the real effects of financial markets. More than 90% of firms reported that they closely monitor the stock market for the purposes of learning information to guide real investment decisions and of accessing external financing. These findings provide direct evidence for the wide existence of market feedback via a learning channel and a financing channel. Firms' tendency to select learning versus financing channels is often affected in opposite directions by variables such as analyst coverage, managerial information, and financial constraints. We also show what firms do is highly consistent with what they say in our survey by exploring their actions on trading suspensions and real investments. Our analysis provides substantial support for that financial markets are not only a side show, but instead, affect the real economy.

Key words: Market feedback, corporate investment, learning, financing

JEL number: G14, G31, D25

1. INTRODUCTION

Financial markets are not just a side show and can feed back into the real economy, either through providing capital or through proving useful information to real decision makers such as firm managers and creditors. In the primary market,[1] the well-functioning of financial markets helps to facilitate the companies' access to external capital, thereby allowing them to tap into good investment opportunities. The literature labels this financing channel as the "capital budgeting" channel (e.g., Brogaard, Ringgenberg, and Sovich, 2019; Goldstein, Yang, and Zuo, 2020). In the secondary market, the financial market aggregates useful information from various market participants, who trade on their private information, and this information can guide the decision of real decision makers. This learning channel is often labeled as an "informational feedback effect" in the literature (See Bond, Edmans, and Goldstein (2012) for a survey on this effect).

It is difficult to test the real effects of financial market prices due to various endogeneity considerations. For instance, the information sets of market participants and real decision makers are unobservable and hence it is particularly challenging to test the informational feedback effect. Even some basic conceptual questions remain debatable. For instance, since firm managers are supposed to be the most informed players, what extra information can they learn from asset markets? The existing literature typically runs regressions from real investment on price informativeness measures as well as control variables and rely on the investment-to-price sensitivity to draw inferences on whether real decision makers learn information from asset prices.[2] However, this inference, at its best, is only indirect and suggestive. Instead, in this paper, we provide direct evidence for market feedback by conducting a survey on companies. Here, by "market feedback", we mean the general notion that the processes affecting prices in financial markets feed back into the real economy, either through capital provision in the primary market or through information provision in the secondary market.

Specifically, we designed and administered a survey to elicit the opinions of Chinese publics firms

---

[1] By "primary market", we refer to the marketplace in which securities are created. It includes both the initial public offering (IPO) (creating shares of a private corporation to the public in a new stock issuance) and the seasoned equity offering (SEO) (creating new shares by an already publicly traded company).

[2] See, for example, Luo (2005), Chen, Goldstein, and Jiang (2007), Bakke and Whited (2010), Foucault and Frésard (2012, 2014), Dessaint, Foucault, Frésard, and Matray (2019), and Jayaraman and Wu (2020), among others.

on market feedback. We asked all 3,628 firms listed on the Shanghai and Shenzhen stock exchanges whether they pay close attention to their own or peer firms' stock prices, and if they do, the reasons for which they monitor these prices. Our questions aim to test the theories on market feedback more directly than the usual method of trying to identify such effects by examining the outcomes of firm decisions. Nearly all firms responded to the survey. Thus, our study does not suffer from the sampling bias problem commonly seen in other survey studies. We also believe that the information we collected from the survey is reliable because (1) the information typically was provided by top executives or by teams specializing in capital market affairs, who are all highly knowledgeable about their firms' challenges and strategies; and (2) the respondents were unlikely to hide their true opinions as we carefully asked plain, purely academic questions without "correct" answers and sticked to a strict "limited use" policy in the survey.

We find substantial and direct support for the existence of market feedback. Among the 3,626 responding firms, 271 (7.5%) firms reported that they only care about their own stock prices; 36 (1.0%) firms reported that they only care about peer firms' stock prices; and 3,049 (84.1%) firms reported that they care about both prices. Taken together, market feedback does exist in 92.6% of Chinese public firms. This effect is also prevalent across all industries, and the probability of monitoring stock prices ranges from 85.9% (non-banking finance industry) to 98.1% (defense industry). Among the 3,320 firms monitoring their own stock prices, 75.2% of them reported that they care about stock prices for learning new information that is relevant for real investment decisions. This new information is incorporated into stock prices by various market participants via trading, who could provide additional information about the cash flow and value of the proposed investments at the aggregate, sector, firm, and project levels. At the same time, 66.1% reported that they care about stock prices because of their effect on financing. These two reasons correspond respectively to the above-mentioned informational feedback channel and capital budgeting channel. The third important reason that firms care about stock prices is pressure from boards and shareholders, and 35.6% of the firms pointed to this reason. Other reasons, such as incentive pay and avoiding being acquired, were not very prevalent among responding firms, which is probably due to the fact that these practices are not

very popular yet in the Chinese market.

We next use the responding firms' characteristics and behaviors, observable in the public market, to examine what factors are important in determining firms' responses about market feedback and the learning and financing channels behind it.[3] These firm characteristics include variables influencing price informativeness (analyst information, managerial information, and trader information), financial constraints, capital needs, and many others. We find that a variety of firm variables have opposite effects on firms' likelihood of choosing the learning channel versus the financing channel.

Our regression results suggest that firms are more likely to monitor stock prices for learning purposes and less likely to monitor prices for financing purposes when their stocks have higher analyst coverage, their managers are less informed, and market traders are more informed. Intuitively, higher analyst coverage implies a more informative stock price either through better interpretation of existing data or through encouraging more information production by traders (Goldstein and Yang, 2015, 2019). This therefore encourages the firm to pay closer attention to stock prices and learn more information about investments. Meanwhile, a firm with higher analyst coverage receives greater attention from investors, making it easier for the firm to raise capital from the market and thereby weakening the firm's incentive to monitor stock prices for financing purposes. Similar arguments apply to managerial information and trader information. We also find that firms are more likely to monitor their stock prices for financing purposes when they are more financially constrained and when they have greater capital needs. By contrast, the effect of financial constraints and capital needs on firms' tendency to select the learning channel appears to be insignificant.

Additionally, we find that the learning (financing) channel is more (less) pronounced among profitable firms with a high Tobin' Q, partly because these firms intend to learn information about investment opportunities but are not short of capital. We also show that firms that have a longer history, pledge more shares, and are not cross listed are less likely to learn for investment information. In contrast, firms with more pledged shares are more likely to monitor stock prices for financing

---

[3] Methodologically, this approach integrating survey and field data has one advantage that our subject of interest is immune from some biases introduced by the survey method. For instance, when survey responses are used for both dependent variables and independent variables, correlated measurement errors on both sides of the regression can significantly bias the coefficients (Bertrand and Mullainathan, 2001). Our approach can mitigate this bias.

purposes. In addition, we find that firms with CEO-chairperson duality and managers with professional service backgrounds are more likely to monitor stock prices for investment information, but CEO-chairmen duality is negatively correlated to the financing channel.

Finally, we connect firms' responses (what they say) to their actions (what they do) to ensure the information from our survey is meaningful. We first explore the responding firms' active trading suspensions in the financial market, which is a unique feature of the Chinese stock market and direct evidence that firms care about and intervene the stock market. Exploring the fact that public firms have some discretion on suspending their stocks' trading in the Chinese stock market, we find that firms reporting the learning channel in our survey are less likely to suspend trading, because trading can incorporate valuable information into stock prices. In addition, when prices drop significantly, firms reporting the financing channel are more likely to suspend trading to maintain certain price levels and financing opportunities. Second, we reproduce the main tests in Chen, Goldstein, and Jiang (2007) in different subsamples to check whether firms' investment decisions in the real sector are consistent with their responses. Using the argument in Chen, Goldstein, and Jiang (2007), we find indirect evidence for the learning channel among Chinese public firms, namely that there is significant sensitivity of real investment to the product of price informativeness and Tobin's Q. More importantly, this significant sensitivity is driven by the subsample of firms reporting that they care the stock market for learning purposes in our survey. These two sets of results suggest that firms indeed act on what they report in our survey, and our findings on market feedback are economically meaningful.

Our paper makes contributions primarily to two strands of literature. First, it contributes to the literature on the real effects of financial markets, in particular, on the informational feedback effect. As mentioned above, the existing literature uses regression analysis to make indirect inference on the informational feedback effect (e.g., Chen, Goldstein, and Jiang, 2007; Foucault and Frésard, 2012, 2014). The most recent literature makes an effort to overcome the endogeneity issues using various settings (e.g., Foucault and Frésard, 2012, 2014; Dessaint, Foucault, Frésard, and Matray, 2019). Still, the evidence is indirect and suggestive. By contrast, our paper provides direct evidence for the real consequences of financial markets, both through the informational feedback effect of the secondary

market and through the capital budgeting channel of the primary market, and further identifies when these channels are important.

Second, our paper contributes to the growing literature that uses surveys to identify and measure the importance of various economic channels. Graham and Harvey (2001) and Graham, Harvey, and Rajgopal (2005) use survey data to examine the cost of capital, capital budgeting, capital structure, and corporate financial reporting. Glaser and Weber (2007) and Dorn and Sengmueller (2009) have used survey data to study the excessive trading puzzle. Choi and Robertson (2020) rely on survey data to compare many factors that may affect investment decisions. Giglio, Maggiori, Stroebel, and Utkus (2020a, 2020b) employ survey-based expectations to analyze people's belief dynamics. Liu, Peng, Xiong, and Xiong (2021) propose a new approach to combining subjective survey responses with observational data to study behavioral biases of investors in Chinese stock market. Our paper offers the first study to examine the real effects of financial markets, and our survey data is comprehensive and does not suffer from the sampling bias commonly seen in other survey studies.

2. THE SURVEY

2.1 *The Questionnaire*

Starting from 2017, the PBC School of Finance at Tsinghua University and the China Securities Regulatory Commission (CSRC henceforth, which is the China's counterpart of the U.S. Securities and Exchange Commission) have jointly surveyed the Chinese public firms every six months to collect opinions on the macro economy and a variety of topics that may interest the policymakers and academia. Every public firm in the Chinese stock market is invited by the CSRC to respond to the surveys, which are designed by researchers from both the PBC school and the CSRC, and later distributed by the regulator CSRC.

In June 2019, we administered a special survey about the real effect of the stock market among the Chinese public firms. Broadly, we asked these firms about (1) in general, whether they keep monitoring stock prices in the public market; and (2) if yes, the reasons for which they monitor stock prices. We included the following two questions in the survey:

  I. How does your company pay attention to the stock market? (Select one answer)

A. Only care about the price of your own company's stock;

B. Only care about the prices of other similar companies' stocks;

C. Both A and B;

D. Only care about the composite stock index;

E. Do not care about the stock market at all.

II. If you choose A or C in I: Which of the following is the reason that your company CAREs about

the stock price of your OWN company? (Select all that apply)

A. Stock price contains information that is new for investment decisions;

B. Stock price would impact refinancing (SEO/ bond issuance/ bank loan);

C. Compensation of management is linked to the stock price, or they hold stocks or options;

D. Pressure from the board and shareholders;

E. Avoiding being acquired or merged;

F. Others, please specify:_____

We designed our questions based on the existing indirect evidence on the real effect of the stock market. Question I solicits managers' opinions on whether they monitor the stock market at all and if yes, what asset prices they monitor. Choice A reflects those studies concluding mangers extract information from their own stock prices (e.g., Luo, 2005; Chen, Goldstein, and Jiang, 2007). Choice B reflects those studies suggesting mangers also keep an eye on peer firms' stock prices (e.g., Foucault and Frésard, 2014).

Question II attempts to collect managers' opinions on the exact purposes of monitoring their own stock prices, conditional on they claim that they care about their own firms' stock prices in the first place (choose A or C in Question I). Answers to this question reveal information about the specific channels of market feedback. Choice A is based on those studies which find managers learn information for making investment decisions (e.g., Chen, Goldstein, and Jiang (2007)), and as we mentioned before, we term it as the "informational feedback effect" or the "learning channel." Choice B is based on those studies showing managers pay attention to stock prices for financing opportunities (Giammarino et al., 2004; Goldstein, Yang, and Zuo, 2020), and we term it as the "capital-budgeting

effect" or "financing channel." Choice C is based on those studies linking stock prices and managerial incentives (Kang and Liu, 2008; Bond, Edmans, and Goldstein, 2012), and we term it as the "compensation channel." Choice D is based on those studies on the substitution effect between market monitoring and board monitoring, because market monitoring is more powerful with more informative stock prices (Ferreira, Ferreira, and Raposo, 2011). We term it as the "monitoring channel." Choice E is based on the notion that firm prices can affect the likelihood that the firms become a target of merger and acquisition, and we term it as the "M&A channel." Choice F allows respondents to specify other reasons which are not documented in the literature.

Besides the above questions, we also asked the public firms to provide information on the positions of the respondents who are assigned by the firms to fill in the questionnaire. The identities of the responding firms were also recorded, enabling us to combine the survey data and public information to perform in-depth analyses.

2.2 *The Responses*

The questionnaire was distributed to the public firms by the CSRC via its electronic survey system. The key advantage of collaborating with the regulator is that we avoid the nonresponse bias (i.e., some subjects refuse to respond, or the survey is unable to reach every respondent), which is almost impossible to eliminate completely in surveys. We managed to collect responses from 3,626 out of the 3,628 Chinese public firms, representing a response rate of 99.99%. The two non-responding firms include a firm that was listed on the exchange for less than one week and another firm that was financially distressed. Thus, our survey covers almost every public firm in the Chinese market, and so our results do not suffer from the representativeness issue.

We also believe the results of the joint survey are reliable and unlikely to suffer from the response bias (i.e., the survey results are different from the actual opinions or facts held by the respondents). Although the questionnaire was distributed to the firms by the CSRC, the respondents had no incentives to provide biased information to cater to the CSRC's needs or to avoid unnecessary troubles because (1) we carefully asked plain, purely academic questions that cannot be used to directly judge a firm's behavior (that is, there are no "correct" answers for these questions); and (2) in the survey, we

formally declared that the responses and other relevant information would be used only in policy and academic research in a large sample. The respondents knew that there will be no information released or reported about individual firms.

Furthermore, the opinions provided by the respondents are able to reveal true information about the public firms. In most of the surveyed firms, members of the top management answered our questions, who are highly informed about their firms' challenges and strategies. Figure 1 shows that in 73.8% (2,678) of the 3,626 responding firms, the respondents take on very important managerial positions including chairperson of the board, director, chief executive officer (CEO), chief financial officer (CFO), and board secretary.[4] In another 23.1% (839) of the firms, the answers are prepared by the office of investor relations, which is a specialized team in charge of capital market affairs led by the board secretary. Only 3.0% (109) of the firms assign other offices such as the general administration to provide the responses.

[Figure 1 about Here]

2.3 *Summary Statistics of the Responding Firms*

We use Table 1 to provide summary statistics for the 3,626 firms responding to our survey. Information on stock prices and firm fundamentals as of 2018 is retrieved from the China Stock Market & Accounting Research Database (CSMAR). Given that the responding sample contains 99.99% of the Chinese public firms, we are essentially summarizing the population of the Chinese public firms.

[Table 1 about Here]

On average, a public firm in the Chinese stock market (and in our survey) is about 20.58 years old since its establishment. It has a total asset of 11.83 billion RMB (1.7 billion in US dollars), and its market capitalization at the end of 2018 is 9.53 billion RMB (1.4 billion in US dollars). The average firm is moderately levered with a leverage ratio of 43%. The valuation of the firm is lower than that in the U.S. market, as the Tobin's Q is around 1.81. It is also less profitable with a ROA of 3.07%. On

---

[4] In Chinese public firms, the board secretary is an important member of the management. Besides handling affairs about the board, shareholder meetings, and communication with the regulators, the board secretary is also responsible for functions about the capital market, including information disclosure, investor relations, and raising capital.

average, there are 6.14 analysts following a public firm. Meanwhile, 37.54% of the firm's outstanding shares are held by institutional investors including mutual funds, insurance companies, pension funds, investment banks, and trust firms. Share pledging is an important financing tool in the Chinese market, and the shareholders of the average firm pledge 15.68% of the firm's total shares as the collaterals for loans. The reported insiders' trading activities are relatively thin, as their trading volume only account for 0.13% of total shares outstanding. In addition, 32% of the public firms are ultimately owned by the state, and 3% of them are cross listed on stock exchanges outside China mainland.

3. DIRECT EVIDENCE FOR MARKET FEEDBACK

In this section, we summarize firms' responses to our questions to provide direct evidence on market feedback. Through the analysis, we term the behavior of monitoring own or peer firms' stock prices as the general market feedback effect; and use the learning channel and financing channel mentioned in Introduction and Subsection 2.1 to refer to the practices of monitoring own stock prices for investment and financing purposes. Besides survey results in the full sample, we also summarize responses across industries to explore the heterogeneity in firms' behaviors.

3.1 *The Prevalence of Market Feedback*

Our first question ("*I. How does your company pay attention to the stock market?*") concerns the existence of the general market feedback, or whether firms monitor stock prices in the first place. We report the responses in Figure 2. Among the 3,626 responding firms, 271 (7.5%) firms responded that they only care about their own stock prices (Choice A); 36 (1.0%) firms responded that they only care about peer firms' stock prices (Choice B); 3,049 (84.1%) firms responded that they pay attention to both their own and peer firms' stock prices (Choice C); and 43 (1.2%) firms responded that they only care about the overall market conditions (Choice D). Only 227 (6.3%) firms indicated that they do not care about the stock market at all (Choice E). In other words, 92.6% of the responding firms monitor stock prices for some reasons (Choices A+B+C). Since 99.9% of the Chinese public firms responded to our survey, market feedback does exist in more than 90% of the Chinese public firms.

[Figure 2 about Here]

This direct survey evidence on the prevalence of market feedback in Chinese stock market is

12

consistent with the indirect evidence provided by Chen and Liu (2018), who follow the methodology of Chen, Goldstein, and Jiang (2007) and find a positive relation between price informativeness and investment-price sensitivity among the Chinese public firms. Our finding strongly supports that it is a common practice for Chinese public firms to closely monitor the stock market.

3.2 *Channels for Market Feedback*

Our second question ("*II. If you choose A or C in I: Which of the following is the reason that you CARE about the stock price of your OWN company?*") explores why the firms monitor their own stock prices. The 3,320 firms choosing A or C in question I were asked to respond. We report their answers in Figure 3. As the firms can choose more than one answer in this question, these frequency counts of each choice do not add up to 3,320.

[Figure 3 about Here]

The most important reasons for firms to monitor their own stock prices are to learn information for investments (the learning channel, Choice A) and to evaluate financing opportunities (the financing channel, Choice B), which are widely documented in the literature. Specifically, 2,496 (75.2%) and 2,193 (66.1%) of the 3,320 firms monitoring their own stock prices pick Choice A and Choice B, respectively. The third important reason underlying market feedback is pressure from boards and shareholders (the monitoring channel, Choice D), and 1,183 (35.6%) firms agree with this statement. The compensation channel (Choice C) is not chosen by many firms (375 firms, 11.3%), probably because equity-linked compensations such as managerial shareholding or stock options are not very popular among Chinese public firms due to relatively strict regulations.[5] The M&A channel (Choice E) is the least frequently chosen reason (337 firms, 10.2%), as hostile takeovers are rarely seen in the Chinese stock market due to higher ownership concentration in public firms. In addition, a few respondents (36 firms, 1.1%) provide their own reasons in Choice F, such as monitoring the value the collateral for share pledging transactions and managing investor relations.

3.3 *Heterogeneity across Industries*

---

[5] As of the end of 2018, on average the management team (excluding members from the board of directors and the board of supervisors) holds 0.65% of these public firms' outstanding shares. During the period from 2006 to 2018, fewer than 40% of these firms have ever implemented managerial incentive plans in terms of stock options, restricted stocks, and stock appreciation rights.

Table 2 summarizes the responses by industry. As shown in Panel A, the general market feedback effect is prevalent across all industries. In the 28 industries, the non-banking finance industry has the lowest ratio of firms monitoring their own or peer firms' stock prices, but this ratio is still quite high at 85.9% (=1.4%+0%+84.5%). Industries that are the mostly likely to monitor stock prices include defense (98.1%), leisure (97.1%), home appliance (96.8%), nonferrous metals (95.8%), and computer (95.2%).

[Table 2 about Here]

Similarly, Panel B presents the summary of reasons for firms monitoring their own stock prices, categorized by industries. For each channel, we rank industries from high to low by the percentage of firms in that industry picking Choice A (i.e., learning information for investments). Pharmaceutical (82.1%), telecommunication (79.4%), and media (79.3%) have the highest fractions of firms picking this learning channel, which may reflect the relatively high uncertainty in investments in these industries. Construction (73.9%), nonferrous metals (72.7%), and agriculture (71.8%) are the top 3 industries that pick Choice B, the financing channel, probably because these traditional industries have strong financing needs but are not favored by investors. Computer (20.5%), electronics (16.4%), and textile (16.0%) have the largest fraction of firms picking the compensation channel. Textile (49.3%), commerce (43.7%), and composite (42.5%) are industries that are the most intensively monitored by boards and shareholders. Lastly, for the M&A channel, the leisure industry (21.2%) has the largest number of firms monitoring the stock market to protect them from takeovers. In contrast, in the banking industry, no firms worry about this specific threat.

4. INFOMRATION, BUDGETING, AND MARKET FEEDBACK

In this section, we run regression analyses to understand how firms answer the two questions in our survey. In the first question, we focus on their answers to Choices A, B, and C (i.e., paying attention the firms' own and their peers' stock prices), which indicate the prevalence of market feedback. In the second question, we focus on their answers to Choices A and B (i.e., the learning channel and the financing channel), since these two choices are the most important reasons underlying market feedback. A common theme revealed by the analysis in this section (as well in the next section) is that

many firm characteristic variables have opposite effects on firms' tendency to select the learning channel versus the financing channel.

4.1 *Sample and Methodology*

We exclude firms that are financially distressed, listed for fewer than 6 months, in the process of delisting, suspended for trading, in the financial industry, or with missing key information from the sample of 3,626 responding firms, leaving a sample of 3,221 firms for empirical analysis.

For the first survey question, we construct two variables, *Mon* and *MonSelf*, to describe firms' general opinions on market feedback. Variable *Mon* is a dummy variable that equals one if a firm chooses A, B, or C in question I (i.e., it monitors its own or peer firms' stock prices), and zero otherwise. Variable *MonSelf* is a dummy variable that equals one if a firm chooses A or C in question I (i.e., it monitors its own stock price), and zero otherwise. We then construct another two dummy variables based on the responses to question II, *Learn* and *Fin*, to describe firms' opinions on the learning and financing channels. *Learn* (*Fin*) is defined as a dummy variable that equals one if a firm chooses A (B) in the second question and indicates that it pays attention to its own stock price for information on investment (financing opportunities), and zero otherwise.

We use the following specification to explore factors influencing market feedback:

$$Feedback = a + b*Factor + c*Controls + \varepsilon, \tag{1}$$

where *Feedback* represents the dummy variables defined above (*Mon*, *MonSelf*, *Learn*, and *Fin*). *Factor* denotes factors such as the informational environment, financing needs, and other market or firm characteristics that may affect a firm's behavior of watching stock prices in the public market. Across regressions we also include the natural logarithm of firm assets (*LnAssets*), firm leverage (*Leverage*), and the state-owned enterprise dummy (*SOE*) to control for the influences of size, capital structure, and state ownership. In addition, the position, industry, province, stock exchange fixed effects are included to absorb any influences varying only with the respondent's position in the firm, industry, the firm's geographical location, and the listing stock exchange. All independent variables are constructed with information as of 2018. Since *Feedback* is a binary choice variable, we run Probit regressions to estimate equation (1).

4.2 *Information and Market Feedback*

In this subsection, we examine how the information environment affects firms' responses to the two survey questions. We consider three different types of information that can be incorporated into stock prices. The first type is information produced by financial analysts, who are active information producers about firms they cover (e.g., Brennan, Jegadeesh, and Swaminathan, 1993; Hong, Lim, and Stein, 2000; Cheng et al., 2016). The second type of information we consider is managerial information, as managers are insiders who are aware of firms' operations and decisions. The third type of information is trader information injected into stock prices via stock trades, as stock prices can reveal traders' private information that is otherwise not available to managers (Grossman and Stiglitz 1980; Easley and O'Hara, 1987).

4.2.1 *Analyst Information*

We use the number of analysts following a firm (*NAnalysts*) and the number of earning forecasts produced in 2018 (*NForecasts*) to measure the information that is generated by analysts and incorporated to stock prices. We expect more information contained in stock prices if more analysts follow a firm and produce more earnings forecasts. This is either because analysts help to interpret and spread existing data or because their coverage reduces uncertainty faced by traders and so encourage traders' information production (e.g., Goldstein and Yang, 2015, 2019).

We regress the feedback response variables on the analyst information proxies using equation (1) and focus on coefficient *b*. Panel A of Table 3 reports the Probit regression results. Columns (1) and (2) show the impacts of information on the responses to Question I. The marginal effects of *NAnalysts* are -0.0012 and -0.0012, which are statistically significant at the 1% level, suggesting more analysts following a firm is associated with firms' lower probability of paying attention to the firm's stock price. With a one-standard-deviation increase in *NAnalysts*, the probability of monitoring (their own) stock prices decreases by 1.1% (1.1%). This result might appear counter-intuitive, since we may expect that a firm should monitor its prices to a larger extent when more analysts follow this firm, making its stock price more informative. However, this argument is only part of the story because its logic is based on the learning channel of market feedback.

Indeed, the marginal effect of *NAnalyst* is 0.0017 in the *Learn* regression in column (3) and significant at the 5% level. That is, with a one-standard-deviation increase in *NAnalysts*, the probability that a firm monitors its own stock prices for learning new investment information increases by 1.6%. This finding does support the learning channel, namely that firm managers are more likely to learn useful information from their own stock prices to guide real investment decisions if these prices contain more information. However, when it comes to the financing channel in column (4), the marginal effect is -0.0030 and significant at the 1% level, suggesting more analyst information is correlated with less intensive price-monitoring for refinancing opportunities. Intuitively, firms with more analyst coverage also receive greater attention from investors, making it easier for them to raise money from the market. As a result, they can afford to spend less time on closely monitoring the stock market. Columns (5) to (8) report regression results using *Nforecasts* as the proxy for analyst information, and the findings stay qualitatively the same.

[Table 3 about Here]

Taken together, more analyst information increases the likelihood of gleaning new information about real investments (the learning channel) but decreases the probability of price-monitoring for refinancing reasons (the financing channel). Netting the two opposite effects, we observe a negative relation between analyst information and the probability that firms pay attention to asset prices.

4.2.2 *Managerial Information*

Stock prices contain managerial information that is made public, but prices may not fully reflect all information possessed by firm managers. For example, corporate insiders, including firm managers, may trade on their private information for excessive returns (Finnerty, 1976). Managers may also engage in earnings management by using judgement in financial reporting for capital market, contracting or regulatory incentives, making stock prices less informative (Healy and Wahlen, 1999). In other words, more intensive insider trading and earnings management suggest more private information owned by managers themselves, and they may rely less on the public information contained in stock prices, which suggests weakened market feedback via the learning channel. In the empirical tests, we use insider trading and earnings management to measure the managerial

information contained in stock prices. The proxy for insider trading, *InsiderTrade*, is defined as the ratio of shares traded by insiders over total shares outstanding in 2018, and we follow Dechow, Sloan, and Sweeney (1995) and Jones (1991) to construct *EarnMngt*, residual accruals obtained by regressing total accruals on fixed assets and revenue growth by industry and year, to measure the intensity of earnings management in a firm.

We regress the feedback variables on *InsiderTrade* and *EarnMngt* to test the effects of managerial information on market feedback, and report the Probit regression results in Panel B of Table 3. Using insider trading as a proxy for managerial information, we find that managers are less likely to pay attention to (their own) stock prices if they more actively buy or sell their firms' stocks: The marginal effects of *InsiderTrade* are negative and significant in *Mon* and *MonSelf* regressions in columns (1) and (2); and a one-standard-deviation increase in *InsiderTrade* decreases the probability of monitoring stock prices (of their own firms) by 0.5% (0.8%). This negative relation is driven by the learning channel because we find a negative and significant marginal effect of *InsiderTrade* in the *Learn* regression in column (3). A one-standard-deviation increase in *InsiderTrade* is associated with a 1.0% decrease in the probability of learning investment information from stock prices. That is, managers are less likely to learn investment information if they own more private information relative to the public information contained in stock prices. In column (4), we find a positive and significant relation between *InsiderTrade* and *Fin*. Intuitively, existing literature suggests that more insider trading leads to higher financing cost (Bhattachary and Daouk, 2002), and so managers will pay more attention to their own stock prices when carefully evaluating their firms' refinancing opportunities.

Columns (5) to (8) report regression results using *EarnMgnt* as the proxy for managerial information. We obtain positive relations between earnings management and overall price-monitoring in columns (5) and (6). This is the net effect of an insignificant learning channel (column (7)) and a positive and significant financing channel (column (8)). In this case, the positive effect of *EarnMgnt* in the financing channel dominates the negative effect in the learning channel, and so we observe a positive effect on the general market feedback effect.

In summary, we find that managerial information contained in stock prices is positively correlated

with the learning channel but negatively correlated with the financing channel. The impacts of managerial information on whether and how firms pay attention to asset markets depend on the interaction between the offsetting effects on the learning and financing channels.

4.2.3 *Trader Information*

We use the ratio of shares held by the largest 3 shareholders (*Top3Shares*) and the ratio of shares held by institutional investors (*InsShares*) to measure trader information and assume these shareholders can produce more information about the firm and incorporate it to stock prices via their trades (Boone and White, 2015). Panel C of Table 3 reports the results of regressing firms' responses to the two survey questions on trader information variables. We find that trader information is negatively correlated with market feedback, which is the net influence of a positive effect on the learning channel and a negative effect on the financing channel.

Specifically, the *Mon* and *MonSelf* regression results in columns (1) and (2) show that large shareholder ownership (*Top3Shares*) is negatively and significantly correlated with price-monitoring activities. Results of the *Learn* regression in column (3) supports the learning channel as the marginal effect of *Top3Shares* is positive and significant. Intuitively, greater ownership concentration makes stock prices more informative, and so firm managers are more likely to learn from their own prices. On the other hand, the effect of ownership concentration on the financing channel test in column (4) is negative but insignificant. This negative influence on the financing channel is consistent with the notion that with a more concentrated ownership structure and more professional and dedicated investors, the cost of raising capital could be lower. Using *InsShares* to proxy for trader information, we can observe similar patterns: a negative effect on market feedback (columns (5) and (6)), an insignificant but positive effect on the learning channel (column (7)), and a negative and significant effect on the financing channel (column (8)).

4.3 *Financial Constraints, Capital Needs, and Market Feedback*

In this subsection, we explore how firms' financial constraints and capital needs affect their responses to the two survey questions. These two financial factors work primarily through affecting the financing channel. For instance, if firms are more financially constrained or have larger investment

plans in the future, they are more likely to take advantage of the better functioning financial market for the purpose of fundraising by closely monitoring stock prices. So, according to the financing channel, we should observe a stronger market feedback among these firms. Indeed, our analysis suggests that market feedback is more pronounced among financially constrained firms with more capital needs, which is driven by the financing channel.

4.3.1 *Financial Constraints*

We first test the effects of financial constraints on market feedback, using the KZ score (*KZ*) suggested by Kaplan and Zingales (1997) and firm free cashflow (*CF*) calculated as the ratio of net cash flows from operations divided by beginning-of-year book assets to measure firms' financial constraints. We regress market feedback response variables on the financial constraints proxies in equation (1), and report Probit regression results in Panel A of Table 4.

[Table 4 about Here]

In regressions with *KZ* as an independent variable in columns (1) to (4), we exclude firm leverage *(Leverage)* as a control because it is considered in the construction of *KZ*. Columns (1) and (2) in Panel A of Table 4 show that *KZ* is positively correlated with *Mon* and *MonSelf*, but this relation is statistically insignificant. Meanwhile, the marginal effect of *KZ* is positive and significant at the 1% level in the *Fin* regression in column (4) and there is no significant result from the *Learn* regression in column (3). Similarly, from columns (5) to (8), we find that *CF*, which is negatively correlated to financial constraints, is negatively and significantly associated to *Mon*, *MonSelf*, and *Fin*, but has no significant impacts on *Learn*. These results support the financing channel that firms montior (their own) stock prices for financing purposes.

4.3.2 *Capital Needs*

We now examine how firms' capital needs affect firms' responses. As mentioned above, our prior is that firms with larger capital needs are more likely to care about stock prices for financing purposes. We construct two proxies for capital needs: *NSEO*, the number of seasoned equity offerings in 2018; and *ChgBudget*, a firm's expectation on increases in capital expenditure in 2019 compiled with

information from a survey question.[6] These two variables respectively capture a firm's investment intensity in the past and in the future and reflect its capital needs.

Panel B of Table 4 reports results regressing the feedback response variables on capital needs variables and other controls, based on the specification in equation (1). Columns (1) to (4) show that *NSEO* is positively and significantly correlated to *MonSelf*. That is, firms raising more capital in the past are more likely to monitor their own stock prices. This finding is driven by the financing channel, as we find a positive and significant relation between *NSEO* and *Fin* in column (4) and there is no such relation in the learning channel test in column (3). Tests based on the expected financing needs, *ChgBudget*, is slightly weaker but qualitatively unchanged. In column (8), the marginal effect of *ChgBudget* is positive and significant, supporting our prior about the financing channel that firms planning to raise more money are more likely to monitor the stock market for financing purposes.

5. OTHER CHARACTERISTICS AND MARKET FEEDBACK

In this section, we explore the effects of other firm characteristics and managerial characteristics on market feedback following the specification in equation (1).

5.1 *Tobin'Q, Profitability, and Market Feedback*

Tobin's Q and profitability measures are widely used in existing empirical studies that seek indirect evidence for the informational feedback effect (e.g., Chen, Goldstein, and Jiang, 2007; Foucault and Frésard, 2014). In this subsection, we examine how these measures affect firms' direct responses to our survey questions. Again, we find that these measures often have opposite effects on the firms' tendency to select learning versus financing channels.

5.1.1 *Tobin's Q*

Columns (1) to (4) in Table 5 report the Probit regression results with Q as the independent variable of interest. The effects of Q on the response to Question I, captured by *Mon* and *MonSelf*, are negative and significant in columns (1) and (2). That is, firm managers are less likely to monitor the

---

[6] In the survey, we also asked firms about their investment plans in 2019 compared to 2018. We assigned different values to *ChgBudget* according to firms' responses: -2 denotes "large decrease"; -1 denotes "small decrease"; 0 denotes "no change"; 1 denotes :small increase"; and 2 denotes "large increase".

stock market when their firms have a high Q value. Though it appears to contradict with the prior that firms are more likely to learn investment information if they are facing better investment opportunities proxied by higher Q, as suggested by Chen, Goldstein, and Jiang (2007), to a large extent this result can be reconciled by the following findings: (1) In the *Learn* regression in column (3) Q indeed has a positive and significant effect on price-monitoring by the learning channel, which is consistent with the intuition in Chen, Goldstein, and Jiang (2007); and (2) Column (4) shows Tobin's Q is negatively and significantly correlated with price-monitoring due to financing purposes, probably because firms with high Q are favored by investors and do not have to worry much about capital raising. The overall negative effect in columns (1) and (2) is driven by the financing channel.

[Table 5 about Here]

5.1.2 *ROA*

Columns (5) to (8) report the Probit regression results on the effects of firm profitability that is proxied by *ROA*. Results remain qualitatively similar to those from the analysis of Q. That is, firms with higher ROA can make more investments, and so we observe a positive effect of ROA on price-monitoring for the leaning purpose (*Learn*) in column (7). Meanwhile, these profitable firms can raise capital at lower costs, and so they do not have strong incentives to pay close attention to the stock market for financing opportunities in column (8). The negative effect on firms' responses to Question I, as we documented in columns (5) and (6), comes from the interaction between the offsetting effects of ROA on the two market-feedback channels.

5.2 *Other Firm Characteristics and Managerial Characteristics*

In this subsection, we explore the influences of a variety of other characteristics—i.e., firm age, share pledging, cross listing, managerial tenure, CEO-chairperson duality, and managers' backgrounds—on market feedback.

5.2.1 *Firm Characteristics*

Panel A of Table 6 reports the results of regressing the feedback response variables on a vector of firm characteristics. Column (3) shows that firm age (*FirmAge*) is negatively and significantly

correlated with the learning channel (*Learn*). Firms with a longer history are more experienced in investments and may have other information sources, and so they rely less on the information contained in stock prices to make decisions.

Columns (5) to (8) relate share pledging (*PledgeShare*), defined as the ratio of shares pledged by shareholders as collateral for financing over total shares outstanding, to market feedback. Share pledging is commonly seen in the Chinese market, and 40.5% of Chinese public firms have share pledge loans by the end of 2019. Columns (7) and (8) suggest that with the more shares are pledged, the less likely firms are to learn investment information proxied by *Learn*, and the higher probability that firms monitor stock prices for refinancing reasons (*Fin*). Intuitively, the more shares are pledged, the shareholders are more cautious about firms' operation to maintain a stable share price to avoid unintended liquidation and losses. To accomplish this goal, they would ask the management to cut risky investments and maintain a certain level of financing capacity, suggesting less intensive learning for investment information but more price-monitoring for financing reasons. Overall, the marginal effects of *PledgeShare* on market feedback, proxied by *Mon* is positive and significant as shown in column (5).

<div align="center">[Table 6 about Here]</div>

Columns (9) to (12) report the effects of cross listing on market feedback. The stock prices of cross-listed firms are more informative because investors from abroad can contribute information to prices (Foucault and Frésard, 2014). In our setting, this implies managers of cross-listed firms are more likely to monitor stock prices. Column (11) presents evidence consistent with this prior. The probability of learning investment information (the learning channel) is 4.1% higher among cross-listed firms.

5.2.2 *Managerial Characteristics*

Panel B of Table 6 reports results for managerial characteristics. Columns (1) and (2) show that *Tenure*, the average tenure of a firm's top management, is negatively and significantly correlated with *Mon* and *MonSelf*. We also observe negative but insignificant results by the learning and financing channel in columns (3) and (4). This pattern is by large consistent with our findings on firm age. That

is, more experienced firm managers have more information sources and use the information effectively, and so they rely less on collecting information from market prices.

Columns (7) and (8) suggest that the learning channel (*Learn*) is positively affected by CEO-chairperson duality (*Duality*), while the financing channel (*Fin*) is negatively affected by *Duality*. The influence of *Duality* on *Mon* and *MonSelf* is insignificant, as shown in columns (5) and (6). This can be interpreted as that for firms whose chairmen also take the role of CEOs, the agency problem between shareholders and managers is alleviated to some extent and thus these firms are able to quickly respond to opportunities with unified leadership (Brickley, Coles, and Jarrell, 1997). As a result, they are more likely to find investment and financing opportunities. Consequently, they need to monitor stock prices for investment information and pay less attention to prices for financing purposes.

Columns (9) to (12) report results for the managers' backgrounds. We define a dummy variable, *Professional*, to measure the managers' backgrounds in professional services including business, accounting, finance, management, and law. Our prior is that with experiences in professional services, managers are more likely to use the information contained in stock prices because they are more aware of the functioning of the capital market. The marginal effects of *Professional* are positive and significant in columns (9), (10), and (11), which supports our prior.

6. WHAT FIRMS SAY, WHAT FIRMS DO

We believe respondents are unlikely to provide untruthful information in our survey, because of the academic nature of the questions and the trust we have built (see Section 2.2 for detailed discussion). In this section, we further strengthen this argument by connecting firms' responses (what they say) to their actions (what they do). First, from the financial side, we examine firms' active management on trading suspensions that may influence price informativeness and price levels. Second, from the real side, we follow Chen, Goldstein, and Jiang (2007) to explore how market feedback affects firms' real investment decisions.

6.1 *Trading Suspensions*

In the Chinese stock market, the Shanghai and Shenzhen stock exchanges allow public firms to suspend their stocks' trading for multiple reasons, including (1) shareholder meeting, (2) important

matters, 3) company reports, 4) abnormal transactions, 5) M&A/restructuring, 6) major risks, 7) media reports, and 8) financing activities, among many others.[7] Some of the reasons (e.g., important matters) are vague enough to give public firms the discretion to strategically suspend the trading of their stocks. In practice, they can easily apply for suspensions for "important matters", in which it is unnecessary for them to disclose the true reasons to the market.

We attempt to connect public firms' trading suspension (what firms do) to their responses about market feedback in our survey (what firms say), and confirm whether respondents provide meaningful opinions. First, public firms can actively use trading suspension to actively influence the information contained in their stock prices, because suspended trading stops traders from incorporating information into prices. We expect that those firms that care more about learning from the financial market are less likely to suspend trading, because trading suspension makes prices less informative. Second, in bad market circumstances, public firms can also suspend trading to avoid extreme price drops, which hinders their capacity of raising capital from the market. Thus, we hypothesize that if stock price drops a lot and firms care about financing purposes, they will suspend trading more frequently.

We collect the trading suspension data for each Chinese public firm from the CSMAR database, including suspension dates, horizons, and reasons. Our sample period spans from July 2019 to June 2021, which is a 24-month period following the survey. Following Liu, Trzcinka, and Zhao (2021), we exclude suspensions shorter than one day (4 trading hours) from our sample. We only include trading suspensions with reason "important matters" in our sample as firms have the most discretion power on suspension by using this reason. (suspensions with other reasons, e.g., abnormal transactions, may be compulsory according to the exchanges' rules). We then estimate the following Probit regression at the firm-month level:

$$Susp_{i,t} = b_t + c*Feedback_i*PriceDrop_{i,t} + d*Feedback_i + e*PriceDrop_{i,t} + Controls_i + \varepsilon_{i,t}, \qquad (2)$$

where $Susp_{i,t}$ is a dummy variable indicating whether firm i suspends trading for the "important matters" reason in month t. $Feedback_i$ represents the dummy variables about the learning and financing channels

(*Learn* and *Fin*) defined in Section 4.1. *PriceDrop$_{i,t}$* is also a dummy variable that equals one if firm *i*'s stock return in month *t* ranks in the bottom decile among all firm-months, and zero otherwise. *Controls* includes all the firm-level control variables as in equation (1). In addition, we include the year-month, position, industry, province, and stock exchange fixed effects across regressions.

[Table 7 about Here]

Columns (1) and (2) in Table 7 report the regression results with *Learn* being the independent variable. In column (1), the marginal effect of *Learn* is -0.19% and significant at the 5% level. That is, for public firms reporting the learning channel in our survey, the probability of suspending trading in each month is 0.19% lower than those non-learning firms. Considering the unconditional suspension probability is 0.90% in our sample, this impact is sizable. In column (2), we insert *Feedback*PriceDrop* into the regression. The marginal effect of the interaction term is statistically insignificant, and the marginal effect of *Learn* is significantly negative. This suggests, if firms care about stock prices for learning investment information, their suspension decisions do not vary with price movements. The above results confirm that firms reporting the *Learn* channel act on what they say. They actively use fewer trading suspensions to increase the informativeness of their prices, from which they can learn valuable investment information.

Columns (3) and (4) report the regression results with *Fin* being the independent variable. Column (3) shows, in general firms reporting monitoring stock prices for financing opportunities do not suspend more frequently, as the marginal effect of *Fin* is insignificant. However, the marginal effect of *PriceDrop* and *Fin*PriceDrop* are both positive and significant in column (4), suggesting (1) that firms suspend trading more frequently after significant price drops (plausibly to maintain price levels); and (2) that if stock prices drop a lot and firms care about prices for financing opportunities, they suspend more freqently. Again, these results confirm that those firms reporting the *Fin* channel act on what they say. When their stock prices plummet, they use more trading suspensions to maintain price levels and financing opportunities.

6.2 *Firm Investment*

In Section 3, we provide direct evidence that 75.2% of the 3,221 firms paying attention to their

own stock prices reported that they intend to extract new real investment information from stock prices. In this section, we replicate the tests in Chen, Goldstein, and Jiang (2007) in different samples to check whether firms' real investment decisions (what firms do) are consistent with their responses (what firms say) in our survey. The following three subsample are used in our analyses: (1) the full sample spanning from 2014 to 2018 (the *Full* sample), (2) the subsample of firms reporting the *Learn* channel (the *Learn* subsample), and (3) the subsample of firms not reporting the *Learn* channel (the *NoLearn* subsample).[8] Intuitively, we expect the relation between investment-price sensitivity and stock price informativeness is more pronounced among firms reporting the *Learn* channel. In addition, with this exercise we are also able to examine the power of the classical empirical tests on market feedback (the learning channel in particular) in the Chinese market.

Specifically, following Chen, Goldstein, and Jiang (2007) we run the following regression at the firm-year level:

$$Capex_{i,t+1} = a_i + b_t + c*Q_{i,t}*Info_{i,t} + d*Q_{i,t} + e*Info_{i,t} + Controls_{i,t} + \varepsilon_{i,t}, \qquad (3)$$

where *Capex* denotes a firm's capital expenditure scaled by the beginning-of-year assets; Q denotes Tobin's Q; and *Info* denotes price informativeness measures. *Controls* is a vector of control variables including net free cashflows from operation divided by book assets (*CF*), stock return in the recent three months (*Ret*), and the inverse of book assets (*InvAst*). We also include firm and year fixed effects in regressions to absorb any influence varying only with firm and time. According to Chen, Goldstein, and Jiang (2007), a significant estimate for coefficient c in equation (3) provides indirect evidence in favor of market feedback.

The informativeness measures we consider are the proxies commonly used in previous studies examining market feedback, including (1) $1-R^2$, the R^2-based price nonsynchronicity measure proposed by Roll (1988) and Durnev, Morck, and Yeung (2004); (2) *PIN*, probability of information-based trading constructed according to Easley, Kiefer, and O'Hara (1996); (3) *D1*, the price delay measure suggested by Hou and Moskowitz (2005); and (4) *FPE*, the forecasting price efficiency measure suggested by Bai, Philippon, and Savov (2016).

---

[8] We use a shorter sample period (five years) in our analysis, because firms' responses in our survey can only reflect the firms' opinions in recent years. In remote years, firm fundamentals and managers could be very different.

We replace *Info* with the above informativeness measures and estimate equation (3) in different samples. Columns (1) to (3) in Table 8 report the OLS regression results with 1-R^2 being the price informativeness measure. The coefficient estimate on the variable of interest, $Q^*(1\text{-}R^2)$, is positive and significant at the 1% level in the *Full* sample (Column (1)). That is, Chinese public firms respond to investment opportunities more actively when their stock prices more informative, which is consistent with Chen, Goldstein, and Jiang (2007). More importantly, this result is driven by firms in the *Learn* subsample rather than those in the *NoLearn* subsample, as the coefficient estimate on the interaction term is significant in column (2) but insignificant in column (3). We also find similar patterns for price informativeness measures *D1* and *FPE* in columns (7) to (12). In addition, columns (4) to (6) report results with *PIN* as the informativeness measure and we find insignificant results. This may be because *PIN* is a noisy measure in the Chinese stock market since a lot of trades are speculation-based and carry no information.

[Table 8 about Here]

Overall we can conclude that market feedback (the learning channel) do exist in the Chinese stock market, as firms are more responsive to investment opportunities if their stock prices are informative. Particularly, this pattern only exists in the subsample of firms reporting the learning channel in our survey, which again suggests firms act on what they say.

7. CONCLUSION

In this paper, we employ survey to examine the real effects of financial markets. Our survey is comprehensive, covering 3,626 Chinese public firms and representing a response rate of 99.99%. We find that more than 90% of firms pay attention to the stock market and that the most salient reasons for them to monitor markets is to learn information from the stock market and to access external financing. These findings provide direct evidence for the wide existence of market feedback effect via a learning a channel and a financing channel. In addition, we find that a variety of firm characteristics have opposite effects on the firms' tendency to select the learning channel versus the financing channel. Finally, we show what firms do is highly consistent with what they report in our survey by exploring their actions on trading suspension and real investments. Overall, our analysis highlights the prevalence

and importance of market feedback.

REFERENCES

Bakke, T.E., Whited, T.M., 2010. Which firms follow the market? An analysis of corporate investment decisions. Review of Financial Studies 23 (5), 1941–1980.

Bai, Jennie, Philippon, Thomas, and Savov, Alexi, 2016. Have financial markets become more informative? Journal of Financial Economics 122, 625–654.

Bertrand, Marianne, and Sendhil Mullainathan, 2001. Do people mean what they say? Implications for subjective survey data, American Economic Review 91, 67–72.

Bhattacharya, Utpal, and Hazem Daouk, 2002. The world price of insider trading, Journal of Finance 57, 75-108.

Bond, P., Edmans, A., and I. Goldstein, 2012. The real effects of financial markets. Annual Review of Financial Economics 4, 339–360.

Boone, Audra L., and Joshua T. White, 2015. The effect of institutional ownership on firm transparency and information production, Journal of Financial Economics 117, 508-533.

Brennan, Michael J., Narasimhan Jegadeesh, and Bhaskaran Swaminathan, 1993. Investment analysis and the adjustment of stock prices to common information, Review of Financial Studies 6, 799-824.

Brickley, J., J. Coles, and G. Jarrell, 1997. Leadership structure: separating the CEO and chairman of the board, Journal of Corporate Finance 3, 189-220.

Brogaard, J., M. C. Ringgenberg, and D. Sovich, 2019. The economic impact of index investing, Review of Financial Studies 32, 3461--3499.

Chen, Qi, Itay Goldstein, and Wei Jiang, 2007. Price informativeness and sensitivity to stock price, Review of Financial Studies 20, 619–650.

Chen, Kang, and Qi Liu, 2018. Price informativeness and investment-price sensitivity: A quasi-natural experiment based on margin trading and short-selling, Journal of Financial Research (in Chinese), September 2018, 126–142.

Cheng, Qiang, Fei Du, Xin Wang, and Yutao Wang, 2016. Seeing is believing: Analysts' corporate site visits, Review of Accounting Studies 21, 1245-1286.

Choi, James J., and Adriana Z. Robertson, 2020, What Matters to Individual Investors? Evidence from the Horse's Mouth, Journal of Finance 75, 1965–2020.

Dessaint, O., Foucault, T., Frésard, L., Matray, A., 2019. Noisy stock prices and corporate investment. Review of Financial Studies 32 (7), 2625–2672.

Dechow, Patricia M., Richard G. Sloan, and Amy P. Sweeney, 1995. Detecting earnings management, The Accounting Review 70, 193-225.

Dorn, Daniel, and Paul Sengmueller, 2009, Trading as Entertainment? Management Science 55, 591–603.

Durnev, Art, Randall Morck, and Bernard Yeung, 2004. Value-enhancing capital budgeting and firm-specific stock return variation, Journal of Finance 59, 65-105.

Easley, David, Nicholas M. Kiefer, and Maureen O'Hara, 1996. Cream-skimming or profit-sharing? The curious role of purchased order flow, Journal of Finance 51, 811–833.

Easley, D., and O'Hara, M., 1987. Price, trade size, and information in securities markets. Journal of Financial Economics 19, 69–90.

Ferreira, Daniel, Miguel A. Ferreira, and Clara C. Raposo, 2011. Board structure and price informativeness, Journal of Financial Economics 99, 523-545.

Finnerty, J. E., 1976. Insiders and market efficiency, Journal of Finance 31, 1141-1148.

Foucault, T., Frésard, L., 2012. Cross-listing, investment sensitivity to stock price, and the learning hypothesis. Review of Financial Studies 25 (11), 3305–3350.

Foucault, Thierry, and Laurent Frésard, 2014. Learning from peers' stock prices and corporate investment, Journal of Financial Economics 111, 554–577.

Giammarino, Ronald, Robert Heinkel, Burton Hollifield, and Kai Li, 2004. Corporate decisions, information and prices: Do managers move prices or do prices move managers? Economic Notes 33, 83–110.

Giglio, Stefano, Matteo Maggiori, Johannes Stroebel, and Steve Utkus, 2020a, Five Facts about Beliefs

and Portfolios, American Economic Review, forthcoming.

Giglio, Stefano, Matteo Maggiori, Johannes Stroebel, and Steve Utkus, 2020a, Inside the mind of a stock market crash, Working paper.

Glaser, Markus, and Martin Weber, 2007, Overconfidence and Trading Volume, Geneva Risk and Insurance Review 32, 1–36.

Goldstein, Itay and Alexander Guembel, 2008. Manipulation and the allocational role of prices, Review of Economic Studies 75, 133–164.

Goldstein, Itay and Liyan Yang, 2015. Information diversity and complementarities in trading and information acquisition, *Journal of Finance* 70(4), 1723 – 1765.

Goldstein, Itay and Liyan Yang, 2019. Good disclosure, bad disclosure, *Journal of Financial Economics* 131(1), 118 – 138.

Goldstein, Itay, Shijie Yang, and Luo Zuo, 2020. The real effects of modern information technologies, working paper, University of Pennsylvania.

Graham, John R., and Campbell R. Harvey, 2001, The theory and practice of corporate finance: Evidence from the field, Journal of Financial Economics 60, 187–243.

Graham, John R., Campbell R. Harvey, and Shiva Rajgopal, 2005, The economic implications of corporate financial reporting, Journal of Accounting and Economics 40, 5–73.

Grossman, Sanford, and Joseph Stiglitz, 1980. On the impossibility of informationally efficient markets. American Economic Review 70, 393–408.

Healy, Paul M., and James M. Wahlen, 1999. A review of the earnings management literature and its implications for standard setting. Accounting Horizon 13, 365–383.

Hong, Harrison, Terence Lim, and Jeremy C. Stein, 2000. Bad news travels slowly: Size, analyst coverage, and the profitability of momentum strategies, Journal of Finance 55, 265-295.

Hou, Kewei, and Tobias J. Moskowitz, 2005. Market frictions, price delay, and the cross-section of expected returns, Review of Financial Studies18, 981–1020.

Jayaraman, S., Wu, J.S., 2020. Should I stay or should I grow? Using voluntary disclosure to elicit market feedback. Review of Financial Studies 33 (8), 3854–3888.

Jones, Jennifer J., 1991. Earnings management during import relief investigations, Journal of Accounting Research 29, 193–228.

Kang, Qiang, and Qiao Liu, 2008. Stock trading, information production, and executive incentives, Journal of Corporate Finance 14, 484–498.

Kaplan, S.N., and L. Zingales, 1997. Do investment-cash flow sensitivities provide useful measures of financial constraints? Quarterly Journal of Economics, 112 (1), 169–215.

Liu, Grocker, Trzcinka, Charles, Zhao, Ziwei, 2021. The price of illiquidity for common stocks. Working paper, Cornell University.

Liu, H., C. Peng, W. A. Xiong, and W. Xiong, 2021. Taming the bias zoo, Journal of Financial Economics, forthcoming.

Luo, Yuanzhi, 2005. Do insiders learn from outsiders? Evidence from mergers and acquisitions, Journal of Finance 60, 1951–1982.

Roll, Richard, 1988, R2. Journal of Finance 43, 541–566.

FIGURES
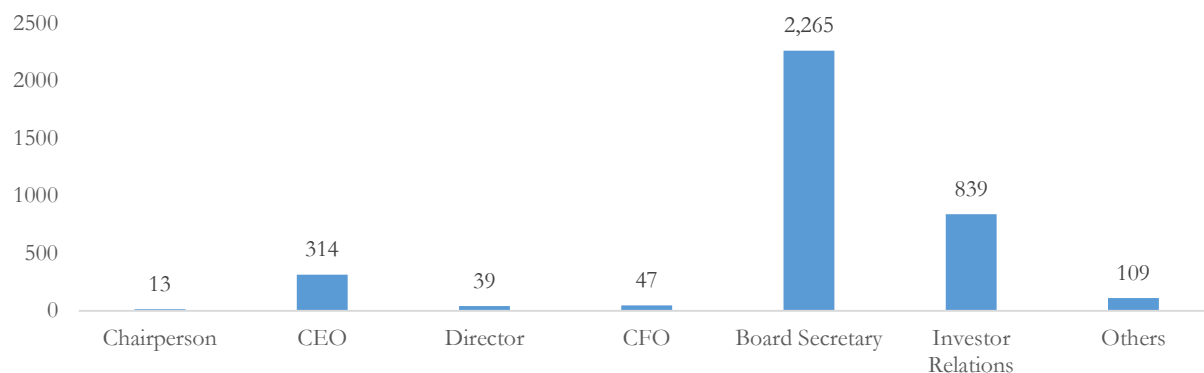
Figure 1: Distribution of the respondents' positions in their firms

This figure plots the distribution of the positions of the respondents that are assigned by their firms to respond to our market feedback survey. Overall, 3,626 Chinese public firms listed on the Shanghai and Shenzhen Stock Exchanges responded to the survey.
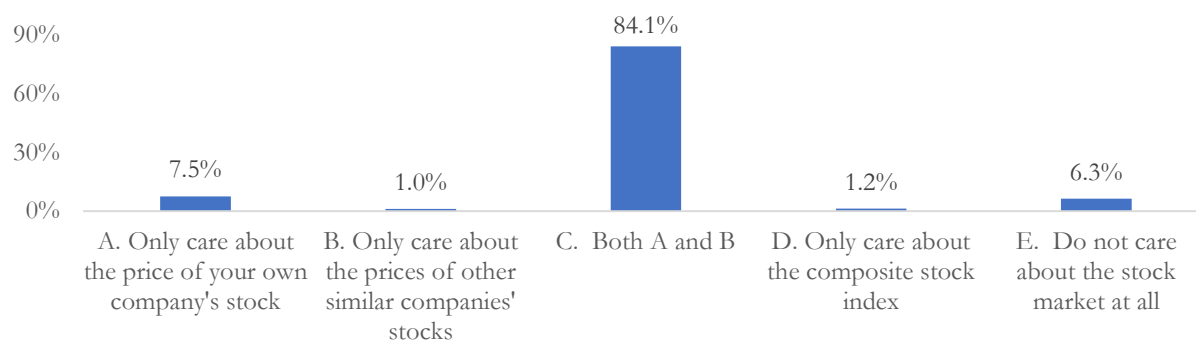
Figure 2: Responses to survey question I

This figure plots the frequencies for each choice by the 3,626 responding firms in survey question I ("*How does your company pay attention to the stock market?*").
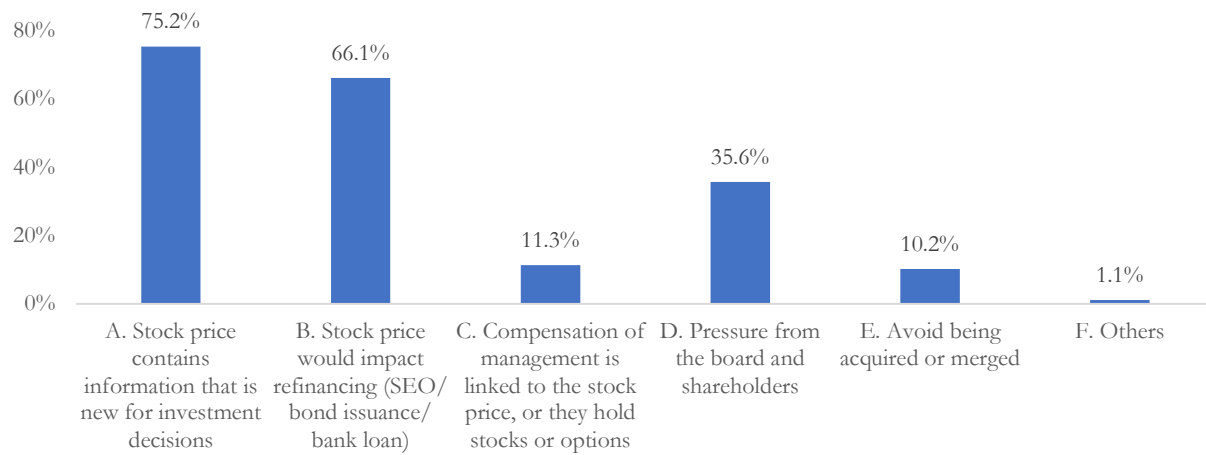
Figure 3: Responses to survey question II

This figure plots the frequencies for each choice by the 3,320 responding firms choosing A or C in survey question II (*"If you choose A or C in I: Which of the following is the reason that your company CAREs about the stock price of your OWN company?"*).

TABLES

Table 1: Summary statistics for the responding firms

This table reports summary statistics for the 3,626 Chinese public firms responding to the feedback survey. Information on stock prices and firm fundamentals is as of 2018.

	Mean	P5	P25	Med	P75	P95	STD
Firm Age (year)	20.58	11.82	16.95	20.47	24.50	30.30	4.95
SOE	0.32	0.00	0.00	0.00	1.00	1.00	0.47
Cross Listing	0.03	0.00	0.00	0.00	0.00	0.00	0.18
Total Assets (billion RMB)	11.83	0.72	1.84	4.13	10.68	76.91	19.09
Market Cap (billion RMB)	9.53	1.85	3.02	5.01	10.43	42.86	10.73
Capital Expenditure (%)	4.86	0.03	1.05	3.16	7.08	17.59	4.94
Tobin's Q	1.81	0.89	1.10	1.50	2.20	4.31	0.93
ROA (%)	3.07	-16.02	1.18	3.46	6.58	12.99	6.38
Leverage	0.43	0.11	0.26	0.41	0.58	0.82	0.21
No. Analysts	6.14	0.00	0.00	1.00	8.00	32.00	9.32
Insider Trading (%)	0.13	0.00	0.00	0.00	0.00	1.30	0.34
Institutional Ownership (%)	37.54	0.92	18.26	38.28	56.15	77.07	22.99
Pledged Shares (%)	15.68	0.00	0.06	11.15	27.84	48.23	15.86

Table 2: Responses to survey questions by industry

This table summarizes the responses to the survey questions by industry. There are 3,626 responses to question I, and 3,320 responses to question II. The fraction of firms in an industry that agree with each choice is reported.

Panel A: I. *How does your company pay attention to the stock market?*   N=3,626

Industry	N. firms	A. Own stock	B. Peers' stocks	C. Both A and B	D. Comp. index	E. Don't care
Defense	54	11.1%	3.7%	83.3%	0.0%	1.9%
Leisure	35	20.0%	2.9%	74.3%	0.0%	2.9%
Home appliance	62	4.8%	0.0%	91.9%	0.0%	3.2%
Nonferrous Metals	118	6.8%	2.5%	86.4%	0.0%	4.2%
Computer	207	4.8%	1.0%	89.4%	1.4%	3.4%
Electrical equipment	195	7.2%	0.5%	87.2%	0.0%	5.1%
Chemical	330	7.9%	0.9%	85.5%	0.6%	5.2%
Bank	32	0.0%	3.1%	90.6%	3.1%	3.1%
Agriculture	92	7.6%	1.1%	84.8%	2.2%	4.3%
Construc. materials	72	8.3%	0.0%	84.7%	0.0%	6.9%
Composite	43	7.0%	0.0%	86.0%	0.0%	7.0%
Construction	128	4.7%	3.1%	85.2%	0.8%	6.3%
Pharmaceutical	295	5.1%	0.3%	87.5%	2.0%	5.1%
Media	153	5.2%	1.3%	86.3%	0.7%	6.5%
Automobile	171	7.0%	0.6%	84.8%	0.6%	7.0%
Utilities	157	10.2%	0.6%	81.5%	0.0%	7.6%
Transportation	114	11.4%	0.0%	80.7%	1.8%	6.1%
Light industry	124	2.4%	3.2%	86.3%	1.6%	6.5%
Electronics	235	9.8%	1.3%	80.9%	0.9%	7.2%
Machinery	332	9.0%	0.3%	82.2%	2.4%	6.0%
Telecommunication	106	9.4%	0.0%	82.1%	0.9%	7.5%
Food and beverage	92	5.4%	0.0%	85.9%	1.1%	7.6%
Commerce	98	9.2%	1.0%	79.6%	0.0%	10.2%
Real estate	129	7.8%	0.8%	80.6%	0.8%	10.1%
Steel	32	12.5%	3.1%	71.9%	3.1%	9.4%
Textile	87	8.0%	1.1%	78.2%	3.4%	9.2%
Mining	62	14.5%	1.6%	71.0%	3.2%	9.7%
Nonbanking finance	71	1.4%	0.0%	84.5%	4.2%	9.9%

Panel B: II. *Which of the following is the reason that your company CAREs about the stock price of your OWN company?* N=3,320

Industry	N. firms	A. Learning	B. Financing	C. Compensation	D. Monitoring	E. M&A Protect
Pharmaceutical	273	82.1%	65.2%	9.9%	38.8%	13.6%
Telecommunication	97	79.4%	66.0%	13.4%	21.6%	12.4%
Media	140	79.3%	66.4%	9.3%	40.0%	5.7%
Defense	51	78.4%	66.7%	9.8%	25.5%	3.9%
Automobile	157	77.1%	67.5%	10.2%	29.9%	10.2%
Electronics	213	77.0%	70.0%	16.4%	38.0%	10.3%
Computer	195	76.9%	69.2%	20.5%	34.4%	11.8%
Light industry	110	76.4%	69.1%	10.0%	35.5%	13.6%
Construc. materials	67	76.1%	65.7%	6.0%	37.3%	10.4%
Leisure	33	75.8%	60.6%	9.1%	42.4%	21.2%
Nonbanking finance	61	75.4%	70.5%	9.8%	34.4%	4.9%
Chemical	308	75.3%	60.7%	11.7%	34.1%	10.4%
Agriculture	85	75.3%	71.8%	3.5%	36.5%	8.2%
Home appliance	60	75.0%	56.7%	13.3%	38.3%	10.0%
Construction	115	74.8%	73.9%	13.9%	36.5%	10.4%
Real estate	114	74.6%	66.7%	7.0%	36.0%	3.5%
Machinery	303	74.3%	67.0%	11.6%	37.0%	11.2%
Electrical equipment	184	73.9%	69.6%	12.0%	34.8%	9.8%
Food and beverage	84	73.8%	52.4%	14.3%	31.0%	13.1%
Mining	53	73.6%	64.2%	11.3%	37.7%	5.7%
Commerce	87	73.6%	63.2%	9.2%	43.7%	12.6%
Utilities	144	72.9%	65.3%	7.6%	33.3%	11.1%
Bank	29	72.4%	58.6%	13.8%	37.9%	0.0%
Transportation	105	71.4%	64.8%	6.7%	29.5%	6.7%
Composite	40	70.0%	50.0%	12.5%	42.5%	10.0%
Textile	75	66.7%	66.7%	16.0%	49.3%	9.3%
Nonferrous Metals	110	66.4%	72.7%	7.3%	33.6%	10.9%
Steel	27	48.1%	55.6%	3.7%	37.0%	3.7%

Table 3: Information and market feedback

This table reports the Probit regression results about the effects of information on firms' responses to the two market feedback questions. The sample consists of 3,221 firms responding to the survey. Dependent variables include dummy variables constructed based on responses to market feedback in Question I and to the learning channel and the financing channel in Question II. The independent variables of interest are analyst, managerial, and trader information measures. The position, industry, province, stock exchange fixed effects are included. See Appendix A for definitions of variables. Marginal effects are reported. Standard errors reported in parentheses are adjusted for heteroscedasticity and clustering at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Analyst Information

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Mon	*MonSelf*	*Learn*	*Fin*	*Mon*	*MonSelf*	*Learn*	*Fin*
NAnalysts	-0.0012***	-0.0012***	0.0017**	-0.0030***				
	(0.0004)	(0.0004)	(0.0007)	(0.0005)				
NForecasts					-0.0005***	-0.0005***	0.0008***	-0.0013***
					(0.0001)	(0.0001)	(0.0003)	(0.0002)
LnAssets	0.0039	0.0032	0.0093	-0.0005	0.0037	0.0031	0.0086	-0.0010
	(0.0042)	(0.0043)	(0.0061)	(0.0066)	(0.0040)	(0.0039)	(0.0056)	(0.0066)
Leverage	-0.0180	-0.0071	-0.1361***	0.4538***	-0.0181	-0.0073	-0.1346***	0.4540***
	(0.0204)	(0.0313)	(0.0404)	(0.0395)	(0.0202)	(0.0309)	(0.0399)	(0.0401)
SOE	-0.0127*	-0.0060	0.0100	-0.0876***	-0.0126*	-0.0059	0.0103	-0.0873***
	(0.0072)	(0.0083)	(0.0190)	(0.0160)	(0.0072)	(0.0084)	(0.0187)	(0.0161)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,221	3,221	3,042	3,042	3,221	3,221	3,042	3,042
Pseudo R^2	0.0244	0.0255	0.0184	0.0441	0.0245	0.0256	0.0187	0.0441

Panel B: Managerial Information

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Mon	*MonSelf*	*Learn*	*Fin*	*Mon*	*MonSelf*	*Learn*	*Fin*
InsiderTrade	-1.4608**	-2.0700***	-2.6811**	2.8388*				
	(0.6969)	(0.4296)	(1.0772)	(1.5849)				
EarnMgnt					0.0855*	0.0990**	0.0197	0.1746**
					(0.0510)	(0.0431)	(0.0803)	(0.0738)
LnAssets	-0.0024	-0.0031	0.0174***	-0.0155***	0.0039	0.0027	0.0219***	-0.0132
	(0.0033)	(0.0034)	(0.0049)	(0.0052)	(0.0036)	(0.0035)	(0.0078)	(0.0110)
Leverage	-0.0073	0.0038	-0.1505***	0.4786***	-0.0122	0.0126	-0.1461***	0.3554***
	(0.0187)	(0.0287)	(0.0379)	(0.0364)	(0.0358)	(0.0316)	(0.0513)	(0.0775)
SOE	-0.0109	-0.0049	0.0048	-0.0791***	-0.0084	-0.0029	0.0193	-0.0645***
	(0.0071)	(0.0083)	(0.0196)	(0.0152)	(0.0105)	(0.0119)	(0.0164)	(0.0227)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,221	3,221	3,042	3,042	2,053	2,053	1,981	1,973
Pseudo R^2	0.0224	0.0245	0.0180	0.0424	0.0235	0.0275	0.0239	0.0385

Panel C: Trader Information

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Mon	*MonSelf*	*Learn*	*Fin*	*Mon*	*MonSelf*	*Learn*	*Fin*
Top3Shares	-0.0760***	-0.0613***	0.1066***	-0.0366				
	(0.0159)	(0.0183)	(0.0381)	(0.0698)				
InsShares					-0.0461***	-0.0528***	0.0220	-0.0564**
					(0.0109)	(0.0153)	(0.0248)	(0.0279)
LnAssets	-0.0015	-0.0024	0.0161***	-0.0151***	0.0008	0.0006	0.0151***	-0.0108**
	(0.0033)	(0.0034)	(0.0049)	(0.0049)	(0.0030)	(0.0027)	(0.0052)	(0.0053)
Leverage	-0.0159	-0.0030	-0.1408***	0.4757***	-0.0135	-0.0031	-0.1481***	0.4738***
	(0.0190)	(0.0293)	(0.0377)	(0.0340)	(0.0183)	(0.0280)	(0.0383)	(0.0353)
SOE	-0.0094	-0.0028	0.0059	-0.0806***	-0.0045	0.0026	0.0034	-0.0738***
	(0.0071)	(0.0083)	(0.0205)	(0.0148)	(0.0072)	(0.0085)	(0.0202)	(0.0146)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,221	3,221	3,042	3,042	3,218	3,218	3,040	3,040
Pseudo R^2	0.0248	0.0249	0.0185	0.0422	0.0248	0.0262	0.0177	0.0426

Table 4: Capital budgeting and market feedback

This table reports the Probit regression results about the effects of capital budgeting on firms' responses to the two market feedback questions. The sample consists of 3,221 firms responding to the survey. Dependent variables include dummy variables constructed based on responses to market feedback in Question I and to the learning channel and the financing channel in Question II. The independent variables of interest are financial constraints and capital needs measures. The position, industry, province, stock exchange fixed effects are included. See Appendix A for definitions of variables. Marginal effects are reported. Standard errors reported in parentheses are adjusted for heteroscedasticity and clustering at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Financial Constraints

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Mon	MonSelf	Learn	Fin	Mon	MonSelf	Learn	Fin
KZ	0.0021	0.0011	-0.0091	0.0417***				
	(0.0019)	(0.0026)	(0.0070)	(0.0056)				
CF					-0.2048***	-0.1854***	-0.0038	-0.3168***
					(0.0678)	(0.0430)	(0.0980)	(0.0956)
LnAssets	-0.0030	-0.0027	0.0078*	0.0157***	0.0003	-0.0006	0.0169***	-0.0116**
	(0.0028)	(0.0025)	(0.0043)	(0.0047)	(0.0030)	(0.0032)	(0.0049)	(0.0049)
Leverage					-0.0187	-0.0048	-0.1481***	0.4587***
					(0.0168)	(0.0281)	(0.0378)	(0.0387)
SOE	-0.0125*	-0.0057	-0.0012	-0.0816***	-0.0109	-0.0041	0.0011	-0.0822***
	(0.0071)	(0.0084)	(0.0208)	(0.0157)	(0.0072)	(0.0085)	(0.0204)	(0.0155)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,095	3,095	2,929	2,929	3,152	3,152	2,976	2,976
Pseudo R^2	0.0223	0.0245	0.0161	0.0375	0.0259	0.0263	0.0175	0.0442

Panel B: Capital Budgeting

	(1) Mon	(2) MonSelf	(3) Learn	(4) Fin	(5) Mon	(6) MonSelf	(7) Learn	(8) Fin
NSEO	0.0158	0.0194*	-0.0394	0.0749***				
	(0.0102)	(0.0103)	(0.0256)	(0.0251)				
ChgBudget					0.0013	0.0038	0.0055	0.0177***
					(0.0037)	(0.0035)	(0.0063)	(0.0057)
LnAssets	-0.0028	-0.0036	0.0188***	-0.0182***	-0.0023	-0.0029	0.0176***	-0.0146***
	(0.0033)	(0.0034)	(0.0048)	(0.0052)	(0.0032)	(0.0033)	(0.0049)	(0.0053)
Leverage	-0.0082	0.0029	-0.1521***	0.4802***	-0.0076	0.0040	-0.1495***	0.4841***
	(0.0191)	(0.0294)	(0.0382)	(0.0365)	(0.0191)	(0.0292)	(0.0393)	(0.0352)
SOE	-0.0100	-0.0034	0.0064	-0.0803***	-0.0102	-0.0039	0.0060	-0.0833***
	(0.0071)	(0.0084)	(0.0204)	(0.0150)	(0.0074)	(0.0087)	(0.0205)	(0.0150)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,221	3,221	3,042	3,042	3,221	3,221	3,042	3,042
Pseudo R^2	0.0222	0.0239	0.0180	0.0433	0.0217	0.0235	0.0177	0.0428

Table 5: Tobin's Q, profitability, and market feedback

This table reports the Probit regression results about the effects of capital budgeting on firms' responses to market feedback questions. The sample consists of 3,221 firms responding to the survey. Dependent variables include dummy variables constructed based on responses to market feedback in Question I and to the learning channel and the financing channel in Question II. The independent variables of interest are Tobin's Q and ROA. The position, industry, province, stock exchange fixed effects are included. See Appendix A for definitions of variables. Marginal effects are reported. Standard errors reported in parentheses are adjusted for heteroscedasticity and clustering at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1) Mon	(2) MonSelf	(3) Learn	(4) Fin	(5) Mon	(6) MonSelf	(7) Learn	(8) Fin
Q	-0.0126**	-0.0126**	0.0143*	-0.0271***				
	(0.0053)	(0.0058)	(0.0077)	(0.0043)				
ROA					-0.2809***	-0.2237**	0.3062***	-0.5104**
					(0.0863)	(0.1131)	(0.0956)	(0.2175)
$LnAssets$	-0.0061	-0.0069	0.0222***	-0.0242***	0.0005	-0.0008	0.0143***	-0.0105**
	(0.0043)	(0.0048)	(0.0066)	(0.0050)	(0.0037)	(0.0041)	(0.0051)	(0.0044)
$Leverage$	-0.0159	-0.0048	-0.1427***	0.4626***	-0.0453	-0.0260	-0.1092***	0.4115***
	(0.0177)	(0.0272)	(0.0370)	(0.0392)	(0.0281)	(0.0433)	(0.0418)	(0.0302)
SOE	-0.0118*	-0.0051	0.0084	-0.0839***	-0.0109	-0.0039	0.0075	-0.0828***
	(0.0070)	(0.0085)	(0.0198)	(0.0157)	(0.0071)	(0.0085)	(0.0199)	(0.0158)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,221	3,221	3,042	3,042	3,221	3,221	3,042	3,042
Pseudo R^2	0.0241	0.0252	0.0180	0.0433	0.0261	0.0256	0.0185	0.0439

Table 6: Other characteristics and market feedback

This table reports the Probit regression results about the effects of capital budgeting on firms' responses to market feedback questions. The sample consists of 3,221 firms responding to the survey. Dependent variables include dummy variables constructed based on responses to market feedback in Question I and to the learning channel and the financing channel in Question II. The independent variables of interest include a vector of firm and managerial characteristics that may affect market feedback. The position, industry, province, stock exchange fixed effects are included. See Appendix A for definitions of variables. Marginal effects are reported. Standard errors reported in parentheses are adjusted for heteroscedasticity and clustering at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Firm characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Mon	MonSelf	Learn	Fin	Mon	MonSelf	Learn	Fin	Mon	MonSelf	Learn	Fin
FirmAge	-0.0003	-0.0005	-0.0042***	0.0018								
	(0.0008)	(0.0008)	(0.0015)	(0.0012)								
PledgeShare					0.0590***	0.0269	-0.1241***	0.2324***				
					(0.0169)	(0.0194)	(0.0417)	(0.0509)				
CrossList									0.0019	0.0021	0.0414**	-0.0617
									(0.0235)	(0.0304)	(0.0210)	(0.0555)
LnAssets	-0.0023	-0.0031	0.0181***	-0.0158***	-0.0025	-0.0031	0.0172***	-0.0160***	-0.0024	-0.0032	0.0161***	-0.0137**
	(0.0032)	(0.0033)	(0.0049)	(0.0052)	(0.0032)	(0.0033)	(0.0049)	(0.0054)	(0.0032)	(0.0033)	(0.0053)	(0.0059)
Leverage	-0.0079	0.0031	-0.1509***	0.4796***	-0.0146	0.0020	-0.1339***	0.4483***	-0.0078	0.0034	-0.1509***	0.4800***
	(0.0189)	(0.0289)	(0.0403)	(0.0360)	(0.0194)	(0.0287)	(0.0402)	(0.0372)	(0.0189)	(0.0290)	(0.0385)	(0.0359)
SOE	-0.0097	-0.0029	0.0112	-0.0831***	-0.0011	0.0009	-0.0143	-0.0438***	-0.0101	-0.0036	0.0057	-0.0793***
	(0.0071)	(0.0084)	(0.0203)	(0.0155)	(0.0074)	(0.0084)	(0.0264)	(0.0137)	(0.0070)	(0.0081)	(0.0203)	(0.0157)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,221	3,221	3,042	3,042	3,202	3,202	3,024	3,024	3,221	3,221	3,042	3,042
Pseudo R^2	0.0217	0.0233	0.0191	0.0423	0.0233	0.0234	0.0191	0.0460	0.0217	0.0232	0.0178	0.0423

Panel B: Managerial characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Mon	*MonSelf*	*Learn*	*Fin*	*Mon*	*MonSelf*	*Learn*	*Fin*	*Mon*	*MonSelf*	*Learn*	*Fin*
Tenure	-0.0037**	-0.0050***	-0.0103	-0.0004								
	(0.0017)	(0.0016)	(0.0079)	(0.0041)								
Duality					0.0058	0.0068	0.0363***	-0.0284*				
					(0.0066)	(0.0063)	(0.0105)	(0.0153)				
Professional									0.0318***	0.0363***	0.1036***	-0.0064
									(0.0090)	(0.0119)	(0.0347)	(0.0503)
LnAssets	-0.0013	-0.0016	0.0203***	-0.0153***	-0.0022	-0.0029	0.0186***	-0.0164***	-0.0026	-0.0034	0.0168***	-0.0154***
	(0.0033)	(0.0035)	(0.0063)	(0.0059)	(0.0033)	(0.0034)	(0.0051)	(0.0054)	(0.0033)	(0.0034)	(0.0048)	(0.0053)
Leverage	-0.0095	0.0011	-0.1561***	0.4790***	-0.0076	0.0035	-0.1487***	0.4782***	-0.0086	0.0026	-0.1551***	0.4794***
	(0.0186)	(0.0287)	(0.0426)	(0.0371)	(0.0188)	(0.0288)	(0.0390)	(0.0364)	(0.0192)	(0.0293)	(0.0408)	(0.0354)
SOE	-0.0101	-0.0037	0.0064	-0.0809***	-0.0086	-0.0019	0.0149	-0.0874***	-0.0107	-0.0043	0.0040	-0.0807***
	(0.0070)	(0.0083)	(0.0196)	(0.0150)	(0.0070)	(0.0084)	(0.0217)	(0.0168)	(0.0071)	(0.0084)	(0.0191)	(0.0156)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,221	3,221	3,042	3,042	3,221	3,221	3,042	3,042	3,221	3,221	3,042	3,042
Pseudo R^2	0.0225	0.0244	0.0185	0.0421	0.0219	0.0234	0.0188	0.0426	0.0226	0.0242	0.0191	0.0421

Table 7: Market feedback and trading suspensions

This table reports the Probit regression results about the effects of the learning and financing channels on firms' trading suspension decisions. The sample consists of 44,031 firm-month observations. The dependent variable is a dummy variable indicating whether a firm suspends the trading of its stock in a month. The independent variables of interest include dummy variables indicating whether the firm reports the learning/financing channels in our survey. The year-month, position, industry, province, and stock exchange fixed effects are included. See Appendix A for definitions of variables. Marginal effects are reported. Standard errors reported in parentheses are adjusted for heteroscedasticity and clustering at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

$Y = Suspension$	(1)	(2)	(3)	(4)
$Feedback =$	Learn		Fin	
Feedback	-0.0019**	-0.0016**	-0.0000	-0.0003
	(0.0007)	(0.0008)	(0.0006)	(0.0006)
PriceDrop		0.0069***		0.0031**
		(0.0022)		(0.0015)
Feedback*PriceDrop		-0.0014		0.0023**
		(0.0012)		(0.0012)
Ln(Total Asset)	-0.0018***	-0.0017***	-0.0018***	-0.0017***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Leverage	0.0169***	0.0165***	0.0172***	0.0168***
	(0.0018)	(0.0019)	(0.0018)	(0.0018)
SOE	-0.0019*	-0.0018	-0.0019*	-0.0018
	(0.0012)	(0.0012)	(0.0011)	(0.0011)
FEs	Yes	Yes	Yes	Yes
N	44,031	44,031	44,031	44,031
Pseudo R^2	0.0529	0.0559	0.0520	0.0550

Table 8: Information contained in stock prices and firm capital expenditure

This table reports the OLS regression results about the effects of the learning channel on the results in Chen, Goldstein and Jiang (2007). The *Full* sample consists of 8,070 firm-year observation from 2014 to 2018. The *Learn (NoLearn)* includes firms reporting (not reporting) the learning channel in our survey. The dependent variable is capital expenditure, and the independent variables of interest include a vector of price informativeness measures. The firm and year fixed effects are included. See Appendix A for definitions of variables. Standard errors reported in parentheses are adjusted for heteroscedasticity and clustering at the stock level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Y =*Capex*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Info =		*1- R2*			*PIN*			*D1*			*FPE*	
Sample =	*Full*	*Learn*	*NoLearn*	*Full*	*Learn*	*NoLearn*	*Full*	*Learn*	*NoLearn*	*Full*	*Learn*	*NoLearn*
*Q*Info*	0.0049***	0.0053***	0.0037	0.0030	0.0025	0.0047	-0.0019**	-0.0026***	0.0001	0.0640***	0.0676***	0.0541
	(0.0016)	(0.0018)	(0.0036)	(0.0034)	(0.0036)	(0.0081)	(0.0008)	(0.0009)	(0.0018)	(0.0228)	(0.0245)	(0.0532)
Q	0.0001	0.0002	-0.0005	0.0017*	0.0020**	0.0006	0.0042***	0.0050***	0.0016	0.0014*	0.0016*	0.0007
	(0.0010)	(0.0011)	(0.0020)	(0.0009)	(0.0010)	(0.0019)	(0.0010)	(0.0011)	(0.0021)	(0.0007)	(0.0008)	(0.0014)
Info	-0.0018	-0.0022	-0.0012	-0.0068	-0.0041	-0.0151	0.0022	0.0031	-0.0006	-0.1352**	-0.1327**	-0.1438
	(0.0043)	(0.0048)	(0.0093)	(0.0093)	(0.0102)	(0.0211)	(0.0026)	(0.0031)	(0.0053)	(0.0547)	(0.0611)	(0.1188)
CF	0.0223**	0.0220**	0.0232	0.0252***	0.0258***	0.0225	0.0262***	0.0259***	0.0261	0.0267***	0.0253***	0.0299
	(0.0089)	(0.0096)	(0.0205)	(0.0089)	(0.0096)	(0.0207)	(0.0090)	(0.0095)	(0.0206)	(0.0090)	(0.0097)	(0.0205)
Ret	-0.0021**	-0.0020	-0.0024	-0.0021**	-0.0022*	-0.0020	-0.0013	-0.0010	-0.0020	-0.0022**	-0.0022*	-0.0022
	(0.0010)	(0.0012)	(0.0020)	(0.0010)	(0.0012)	(0.0020)	(0.0011)	(0.0013)	(0.0021)	(0.0010)	(0.0012)	(0.0019)
InvAst	0.0336***	0.0320***	0.0382***	0.0397***	0.0399***	0.0400***	0.0367***	0.0361***	0.0384***	0.0397***	0.0402***	0.0391***
	(0.0049)	(0.0056)	(0.0102)	(0.0050)	(0.0058)	(0.0100)	(0.0054)	(0.0061)	(0.0116)	(0.0050)	(0.0058)	(0.0099)
Constant	0.0272***	0.0273***	0.0270***	0.0268***	0.0261***	0.0289***	0.0224***	0.0212***	0.0258***	0.0273***	0.0270***	0.0283***
	(0.0030)	(0.0035)	(0.0060)	(0.0022)	(0.0025)	(0.0046)	(0.0023)	(0.0025)	(0.0049)	(0.0019)	(0.0022)	(0.0037)
FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7,992	5,967	2,025	7,999	5,981	2,018	7,650	5,711	1,939	8,070	6,023	2,047
Adj. R²	0.0527	0.0529	0.0509	0.0555	0.0575	0.0481	0.0508	0.0538	0.0427	0.0549	0.0567	0.0480

APPENDIX

Variable definitions.

Variables are constructed with information during the year of or by the end of 2018.

Variable	Definition
Mon	A dummy variable that equals one if the firm chooses A, B, or C in survey question I, and zero otherwise.
MonSelf	A dummy variable that equals one if the firm chooses A or C in survey question I, and zero otherwise.
Learn	A dummy variable that equals one if the firm chooses A in survey question II, and zero otherwise.
Budget	A dummy variable that equals one if the firm chooses B in survey question II, and zero otherwise.
LnAsset	The natural logarithm of a firm's total assets in milllion RMB.
Leverage	The ratio of a firm's total debt over its total assets.
SOE	A dummy variable that equals to one if a firm is owned by the state, and zero otherwise.
EarnMgnt	Residual accruals obtained by regressing total accruals on fixed assets and revenue growth by industry and year, following Dechow, Sloan, and Sweeney (1995) and Jones (1991).
InsiderTrade	The ratio of shares traded by insiders over total shares outstanding.
Top3Shares	The ratio of shares held by the 3 largest shareholder over total shares outstanding.
InsShares	The ratio of shares held by institutional investors over total shares outstanding.
KZ	The KZ score for financial constraints constructed according to Kaplan and Zingales (1997).
CF	The ratio of net cash flows from operations divided by beginning-of-year book assets.
NSEO	The number of seasoned equity offerings.
ChgBudget	A firms' expectation on capital expenditure in 2019, compiled with information from the survey. -2 denotes "large decrease"; -1 denotes "small decrease"; 0 denotes "no change"; 1 denotes "small increase"; and 2 denotes "large increase".
Q	Tobin's Q, calculated as (market value of total equity + book value of assets - book value of equity)/(book value of assets)
ROA	The ratio of the firm's income before taxes and interests over its total assets.
FirmAge	The total number of years since a firm's establishment.
PledgeShare	The ratio of shares pledged over total shares outstanding.
CrossList	A dummy variable that equals one if the firm is cross listed on another market outside China mainland, and zero otherwise.
Tenure	The average tenure of a firm's top executives.
Duality	A dummy variable that equals one if the firm's CEO is appointed as chairperson, and otherwise zero.

Professional	The fraction of top executives with professional service backgrounds including business, accounting, finance, management, and law.
Susp	A dummy variable that equals one if a firm suspends trading for the "important matters" reason, and zero otherwise.
PriceDrop	A dummy variable that equals one if a firm's monthly stock return ranks in the bottom decile among all firm-months, and zero otherwise
Capex	Capital expenditure scaled by beginning of year total assets.
1-R2	R2 is obtained by regressing daily stock returns on market and industry returns.
PIN	Probability of informed trading.
D1	The price delay measure constructed as in Hou and Moskowitz (2005).
FPE	The forecasting price efficiency measure constructed as in Bai, Philippon, and Savov (2016).
Ret	Stock return in the recent three months.
InvAst	The inverse of book assets.