

A Blessing or a Curse? The Impact of Financial Liberalization on Stock Price Informativeness

Qing-Qing Zheng^{1,2,a}, Li-Yan Han^{1,b,*} and Li-Bo Yin^{3,c}

1. School of Economics and Management, Beihang University, Beijing, China

2. Shenyuan Honors College, Beihang University, Beijing, China

3. School of Finance, Central University of Finance and Economics, China

^azqq1052@163.com, ^bhanly@buaa.edu.cn, ^cyinlibowsxbb@126.com

*Corresponding author

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Abstract. This paper assesses the extent to which an emerging economy can benefit from financial liberalization. We exploit the openness of capital markets to foreign institutional investors in China as a natural experiment generating exogenous shocks to China's securities markets. We provide evidence that foreign institutional investors' shareholdings contribute to stock price informativeness. In contrast, domestic institutional investors have the opposite effect.

1. Introduction

Whether financial liberalization is beneficial for emerging economies has long been controversial. Researchers have found that foreign institutional investors contribute to stock price efficiency by reducing stock price synchronicity and making individual stock prices more efficient and independent [4,5]. In addition, foreign institutional investors act as market stabilizers by reducing excess trading [6]. Stock price informativeness, however, is an important topic that has not been received an appropriate amount of attention. This issue is especially critical for emerging economies, as emerging markets are less mature and likely to exhibit greater synchronicity of stock prices than developed countries [8]. However, only a few papers focus on the effects of foreign institutional investors on stock price informativeness. Moreover, the number of related studies of China, the largest emerging economy, is even smaller.

This paper attempts to fill this gap by investigating the impact of foreign institutional investors on stock price informativeness. We utilize the qualified foreign institutional investors system, known as the QFII system, to assess how the openness of China's capital markets affects stock price informativeness. We use $1-R^2$ to measure price informativeness, a commonly used approach in the literature [2,3,8]. And we find that foreign shareholding contributes to the information content of stock prices.

This paper makes two major contributions. First, we examine foreign institutional investors' impacts on stock price informativeness, which has not yet received sufficient attention in the literature. Second, we use the instrumental variable strategy after controlling for firm fixed effects to examine the causal impacts of foreign institutional investors.

2. Econometric Specification

In this paper, we analyze the impacts of QFIIs on stock price informativeness and fluctuations. The econometric model is specified as Eq.(1):

$$y_{it} = \lambda_1 QFII_{it-1} + \lambda_2 Domestic_{it-1} + z_{it}^T \alpha + \mu_i + v_{it}; i = 1 \dots N, t = 1 \dots T \quad (1)$$

where y_{it} refers to R-square (stock price informativeness is represented by $1-R^2$ [9]), $QFII_{it-1}$ is the proportion of all foreign institutional ownership of firm i in quarter $t-1$, $Domestic_{it-1}$ is the proportion of all domestic institutional ownership of firm i in quarter $t-1$, z_{it} represents the control variables

(including the leverage ratio, the rate of return on total assets and quarter dummies), μ_i is the individual effect of firm i , and v_{it} is the error term.

In this study, we address endogeneity in two respects. The first is omitted variables bias. Some features of firms, such as corporate culture and social capital, which are observable for QFIIs but not researchers, may influence QFIIs' investments. Most omitted variables are non-time-variants within a given period, leading to omitted variables bias in the analysis. The second aspect of the endogeneity problem is simultaneity bias associated with reverse causality, as firms with strong performance tend to attract more investment from institutional investors. To address the omitted variables problem, we introduce a fixed-effects model to eliminate individual non-time-variant effects. Additionally, we adopt control variables, such as the leverage ratio, the rate of return on total assets and quarterly dummies. To address the reverse causality problem, we employ the log of total assets, the largest shareholder's shareholding ratio, and the Herfindahl-Hirschman index as instrumental variables for the shareholding ratios of foreign and domestic institutional investors, and we use one-period lags of explanatory variables.

3. Data and Descriptive Statistics

We employ quarterly data from a firm-level panel dataset covering all listed companies that went public before December 31, 2006 from China's A-share market. The sample period is 2007:Q1-2015:Q1.

Table 1 presents summary statistics for the dependent variables, the explanatory variables, the control variables and the instrumental variables used in the models. R^2 is obtained from RESSET Database (<http://www.resset.com>). In our specification, informativeness is represented by $1-R^2$ [9]. Other indexes are downloaded from WIND Database (<http://www.wind.com.cn>). Domestic refers to domestic institutional investors' shareholding ratio, QFII refers to foreign institutional investors' shareholding ratio, and Institution is the sum of Domestic and QFII. The mean of Domestic is 7.07%, whereas the mean of QFII is only 0.18%. Although the total number of QFIIs is increasing rapidly, investment is limited due to the cautious attitude of the relevant government departments in China. QFIIs are involved in a minority of companies, as the median of QFII is 0.

Table 1. Summary statistics and interpretations of variables

Variables	Interpretation	Mean	Standard Deviation	Median	Observation
R^2	Informativeness	0.46	0.24	0.48	44061
<i>Institution</i>	Proportion of institutional ownership	7.25	11.22	2.38	45342
<i>Domestic</i>	Proportion of domestic institutional ownership	7.07	11.07	2.28	45342
<i>QFII</i>	Proportion of foreign institutional ownership	0.18	0.86	0.00	45342
<i>LEV</i>	Leverage ratio	53.52	20.88	54.25	45329
<i>ROA</i>	Rate of return on total assets	2.29	4.00	1.41	45336
<i>First</i>	Proportion of the first largest shareholder	34.99	15.60	32.72	45342
<i>HHI3</i>	Herfindahl-Hirschman index	1597	1234	1240	45342
<i>Asset</i>	Total assets	8.36e+09	1.57e+10	2.92e+09	45328
<i>Profit</i>	Amount of profit	2.29e+08	4.98e+08	5.16e+07	45341

Note: *Institution*, *Domestic*, *QFII*, *LEV*, *ROA*, *First* are expanded 100 times and *HHI3* is expanded 10000 times.

4. Empirical Results

Table 2 shows the causal relationship between institutional investors' shareholding and stock price informativeness. Foreign institutional investors improve the information content, while domestic institutional investors do the opposite. Column 1 presents a simple panel fixed effects estimation. Columns 2 to 4 present the regression of the instrumental variable strategy, controlling for firm fixed effects and time fixed effects. The corresponding instrumental variables are last quarter's largest shareholder's shareholding ratio, the Herfindahl-Hirschman index and the log of assets.

Table 2, Column 1 indicates QFIIs' insignificant negative effect and domestic investors' significant negative effect on R^2 . The results are biased due to endogeneity. In Column 2, the coefficient for QFII remains negative but is now significant at the 1% level. The coefficient for Domestic remains significant but is now positive. Both coefficients' absolute values substantially increase. This change suggests that the endogeneity of explanatory variables causes downward bias. In Column 3, we add the leverage ratio as a control variable, and the estimation results are robust. An increase in the foreign institutional ownership ratio by one percentage point leads to an decrease in R^2 by 0.626. In Column 4, we further add the rate of return on total assets as a control variable, and the results remain robust. From Column 2 to Column 4, the effects of QFIIs and domestic institutional investors strengthen with the inclusion of more control variables to reduce endogeneity bias. Comparing QFIIs with domestic institutional investors, we find that QFIIs contribute to increases in stock price informativeness, due to their sophistication and skill [1,7]. However, domestic institutional investors play a negative role, owing to their lack of sophisticated analysis and herd behavior. After eliminating companies with no investment by QFIIs during the sample period, the regression results remain robust. In Column 2 to Column 4, the coefficients for QFII are significantly negative: -0.331, -0.372, and -0.376, respectively. (To save space, we do not present the regression results here.)

In Columns 2 to 4, the null hypotheses of all underidentification tests are rejected, which means that the instrumental variables are strongly related to the endogenous variables. Furthermore, non-rejection of the null hypotheses of the overidentification tests implies that all the instrumental variables are exogenous.

Table 2. Regression results of institutional investors' shareholdings and stock price informativeness

	(1)	(2)	(3)	(4)
Dependent	R^2	R^2		
Variables	Fixed Effect	Instrumental Variable		
L. <i>QFII</i>	-0.00189 (0.00222)	-0.552*** (0.0807)	-0.626*** (0.09)	-0.656*** (0.09)
L. <i>Domestic</i>	-0.000907*** (0.000227)	0.0172*** (0.00444)	0.0180*** (0.00)	0.0219*** (0.01)
L. <i>LEV</i>			0.000995*** (0.00)	-0.00132*** (0.00)
L. <i>ROA</i>				-0.00685* (0.00)
Firm fixed effects	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes
Underidentification	—	64.64***	64.84***	68.82***
Overidentification	—	0.620	0.344	0.435
Observations	38889	38889	38889	38889
R-squared	0.254	-3.728	-4.79	-5.43
Number of company	1374	1374	1374	1374

Note: Robust standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

5. Conclusion

In this paper, we first examine the benefits of financial liberalization by investigating the causal relationship between foreign institutional shareholding and the information content of stock prices in China's capital markets. Our results are consistent with the view that foreign institutional investors are sophisticated investors [1, 10] whose trading behavior, based on senior-level analysis, typically reflects considerable firm-specific information. The values of their investments are likely to be highly informative about firms' private value [5].

This paper contributes to the literature on financial liberalization and stock price informativeness in emerging economies. The QFII system is a landmark in the opening-up of China's capital markets. China's stock market features low efficiency and frequent and noisy trading, and QFII is found to act as an information facilitator as expected.

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7. References

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