

The Impact of Foreign Ownership on Chinese Stock Liquidity

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ABSTRACT

This paper investigates the relationship between foreign ownership and stock liquidity in China during 2010-2018. We find that foreign ownership has a negative effect on stock liquidity in the main board and SMEs board, while no impact on the GEM board. Foreign investors as informed traders can reduce the stock liquidity due to adverse selection by their counterparties, while they may also increase the stock liquidity due to competitive effect. We find that the negative impact of adverse selection dominates the competitive effect by foreign shareholding.

Keywords: *foreign ownership, liquidity, adverse selection, competitive effect*

1. INTRODUCTION

China's capital market has become increasingly open to foreign investors in the past two decades. The scope of investment has been enlarged substantially for foreign investors, whose shareholding has increased accordingly. The existing literature has examined the role of foreign ownership for corporate governance, information disclosure, the efficiency of capital market, and risk transmission. Ferreira et al. (2008) show that the introduction of qualified foreign institutional investors (QFII) helps firms adopt advanced technology and management practice, which can improve firms' competitiveness. Acharya & Pedersen (2005) show that foreign investors can improve the pricing efficiency in the capital market. However, foreign investors may also lead to increased risk transmission during financial crisis, e.g. Ahmed et al. (2017) and Ahmed & Zlate (2014).

Foreign ownership can also affect stock liquidity. Lee & Chung (2018) find that foreign ownership has a positive impact on stock liquidity in 20 developing countries. We analyze the impact of foreign investors on stock liquidity during 2010-2018 in China. We find that foreign ownership has a negative impact on stock liquidity, while the adverse selection effect dominates the competitive effect.

Our paper contributes to the literature in the following aspects. Firstly, the existing research on foreign investors in China mainly focuses on QFII, which is not the only way for foreign investors to enter the Chinese stock

market. We include a more comprehensive coverage of foreign investors retrieved from CSMAR and Wind databases. Secondly, in contrast to Lee & Chung (2018), we find a negative impact on the stock liquidity, which is mainly caused by the dominance of adverse selection effect over the competitiveness effect. Thirdly, we find that the negative impact of foreign ownership is mitigated when foreign shareholding increases, which leads to increased competitiveness effect and decreased adverse selection effect. Although China has spent great effort in attracting foreign investors, the foreign shareholding is only about 2%, while it is much higher in other developing countries, e.g. 15% in Indonesia. Thus, our results are not surprising given a limited presence of foreign investors during 2010-2018 in the country.

2. LITERATURE REVIEW AND HYPOTHESIS

Foreign investors are more versatile in information acquisition and analysis, which enables them with information advantage over domestic investors. Grinblatt & Keloharju (2000) show that foreign investors can earn a higher return than domestic investors, which is mainly due to their superiority in information acquisition and investment technology. Ferreira et al. (2008) find that foreign investors have more investment experience than domestic investors, which can enhance their performance accordingly. He et al. (2013) show that foreign investors have an information advantage, which is also substantiated by Park et al. (2015) and Dennis & Weston (2001). The existing literature mainly finds that foreign

investors can obtain excess returns in developing countries. Froot & Ramadorori (2001) find that foreign investments have better performance than domestic investors, such as in Indonesia⁹ (Dvorak, 2005). Japanese and Korean investors have also achieved better investment performance in other industrial countries^{10,11} (Choe et al., 2005; Jiang & Kim, 2004). Park & Chung (2007) find that stocks with higher foreign shareholding have higher returns, which is mainly due to foreign investors' higher capability in information acquisition.

However, the information advantage of foreign investors may lead to an adverse selection of their counterparties. Foreign investors often consist of institutional investors from industrial countries, who have an information advantage over domestic investors. Therefore, the counterparties of foreign investors may engage in adverse selection, which may increase the spread of stock trading and reduce stock liquidity¹⁶ (Glosten & Milgrom, 1985). Brockman & Yan (2009) show that foreign ownership will increase the information asymmetry of listed firms, which will further decline stock liquidity. Goldstein & Razin (2005) and Rhee & Wang (2009) also show that foreign investors have information advantage, which can increase transaction costs and reduce stock liquidity.

However, foreign investors can also enhance the efficiency of information transmission, which can thus enhance stock liquidity. Lee & Chung (2018) shows that the efficiency of information transmission is improved by foreign investors. Bae et al. (2006) shows that foreign investors can enhance the information disclosure of Chinese listed firms, which can thus improve stock liquidity. Kyle (1985) shows that the transactions by informed investors improve the efficiency of information transmission, and thereby improve the stock liquidity. Furthermore, Admati & Pfleiderer (1988) show that the transaction of informed traders can increase the information content of stocks, which is also substantiated by Subrahmanyam (1991). Agarwal (2007) finds that institutional investors with information advantage can improve stock liquidity through enhancing the efficiency of information transmission.

Foreign investors also have superior investment

technology, whose investment can attract more attention to listed firms. More active trading can enhance the competitive effect and reduce the transaction cost, which can increase the stock liquidity. The existing literature shows that foreign investors can affect stock liquidity through two channels: the adverse selection caused by information asymmetry, and the competitive effect through the improvement of information transmission. Foreign investors as informed traders can lead to adverse selection of counterparties, which ends up in lower stock liquidity^{15,16,17} (Bae et al., 2006; Kyle, 1985; Subrahmanyam, 1991). In a word, foreign investors can also increase stock liquidity by increasing the efficiency of information transmission, and the competitive effect of stocks^{15,17,18} (Bae et al., 2006; Subrahmanyam, 1991; Ng et al., 2016).

3. DATA AND DESCRIPTIVE STATISTICS

We follow the illiquidity indicator in Amihud (2002) as follows:

$$Illiquidity_{it} = \frac{|Return_{it}|}{DVOL_{it}} \quad (1)$$

$Return_{it}$ is the yield of stock i in month t ; $Volume_{it}$ is the transaction volume of stock i in month t . Corwin & Schultz (2012) show that some countries do not have a market maker system, and they simulate the bid-ask spread using daily high and low prices, which can capture transaction costs and trading spreads. We use the simulated bid-ask spread, and employ equation (2) to explore the impact of foreign shareholding on stock illiquidity:

$$Illiquidity_{i,t} = \beta_0 + \beta_1 Foreign_{i,t} + \sum \beta_j Controls_{i,t} + Year_t + Industry_i + \varepsilon_{i,t} \quad (2)$$

Foreign is the shareholding of foreign investors in Chinese listed firms. Control variables include size (market capitalization), book to market ratio, and stock volatility. We retrieve the data from CSMAR and WIND databases during Jan 2010 - Dec 2018. Table 1 shows some summary statistics for the variables.

Table 1. Descriptive statistics

	N	Mean	Std	Min	Median	Max
Illiquidity	4,014	0.70	1.49	0.00	0.28	46.34
Foreign	4,014	2.39	6.38	0.00	0.88	60.32
Size	4,014	444.92	1337.57	7.81	108.87	18,993.46
Book to market ratio	4,014	3.56	5.62	0.25	2.61	272.21
Stock volatility	4,014	19.39	31.85	1.68	13.59	731.46
Top ten shareholder	4,014	61.75	16.75	4.59	62.21	98.58

4. RESULTS

4.1 The impact of foreign ownership on stock liquidity

ownership. Column (1) shows that foreign ownership is positively associated with illiquidity, which is statistically significant at the 1% level. The results are qualitatively similar when we control for a set of variables in column (2).

Table 2 shows the regression of illiquidity on foreign

Table 2. Foreign ownership and stock liquidity. Robust standard errors in parentheses. Significance indicated by *** p<0.01, ** p<0.05, * p<0.1.

	(1)	(2)
	Illiquidity	
Foreign	0.048*** (0.016)	0.051*** (0.017)
Size		-0.803*** (0.086)
Book to market ratio		-0.001*** (0.000)
Stock volatility		0.025*** (0.002)
Constant	0.583*** (0.039)	3.792*** (0.451)
# Observations	4014	4014
R-squared	0.042	0.193
Industry and year dummies	YES	YES

We try to explore whether foreign investors can earn excess returns in equation (3), which can reflect their information advantage.

$$Excess\ Return_{i,t} = \beta_0 + \beta_1 Foreign_{i,t} + \sum \beta_j Controls_{i,t} + Year_t + Industry_i + \varepsilon_{i,t} \quad (3)$$

We also try to explore the competitive effect in

equation (3) by replacing the excess return with the trading spread. Columns (1)-(2) of Table 3 show that foreign ownership is positively associated with the excess return at the 1% level, which confirms that foreign investors can obtain excess return in China, e.g. due to their information advantage. Columns (3)-(4) show that foreign shareholding can increase trading spreads, which can thus reduce stock liquidity.

Table 3. Information asymmetry and stock liquidity. Robust standard errors in parentheses. Significance indicated by *** p<0.01, ** p<0.05, * p<0.1.

	(1)	(2)	(3)	(4)
	Excess return		Trading spread	
Foreign	0.007*** (0.001)	0.006*** (0.002)	0.005** (0.002)	0.004** (0.003)
Size		0.039*** (0.007)		0.041*** (0.010)
Book to market ratio		-0.001*** (0.000)		-0.001*** (0.000)
Stock volatility		0.015*** (0.001)		0.026*** (0.002)
Constant	-0.004*** (0.001)	-0.118*** (0.039)	0.189*** (0.006)	0.101* (0.058)

# Observations	3993	3993	3993	3993
R-squared	0.031	0.154	0.046	0.254
Industry and year dummies	YES	YES	YES	YES

The impact of foreign shareholding may be heterogenous across different types of firms. Table 4 shows that foreign shareholding is associated with higher illiquidity for firms in main-board and SMEs board, but

not significant in the GEM board. It seems that foreign investors do not have information advantage for firms in the GEM board, which is mainly due to a lack of hard information for these firms.

Table 4. The heterogeneity over firm types. Robust standard errors in parentheses. Significance indicated by *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

	(1) Main-board	(2) SMEs board	(3) GEM board
Foreign	0.042*** (0.015)	0.454*** (0.126)	-0.019 (0.071)
Size	-0.790*** (0.105)	-0.647*** (0.158)	-0.827*** (0.181)
Market to book ratio	0.001*** (0.000)	0.224 (1.001)	0.237 (1.323)
Stock volatility	0.027*** (0.002)	0.014*** (0.001)	0.019*** (0.001)
Constant	3.916*** (0.562)	2.604*** (0.977)	1.013*** (0.058)
# Observations	3154	451	409
R-squared	0.191	0.297	0.092
Industry and year dummies	YES	YES	YES

4.2 Endogeneity concerns

We show that foreign investors can reduce the stock liquidity of Chinese listed firms. Foreign investors as informed traders have information advantage, which leads to adverse selection of their counterparties, and widens the trading spread and reduces stock liquidity. Due to the capital control in China, the presence of foreign shareholding is still limited in the country. Therefore, the competitive effect is dominated by the adverse selection effect, which leads to a negative impact on stock liquidity in equilibrium.

However, stocks with lower liquidity may achieve

higher returns in China. Thus, the excess returns obtained by foreign investors may be due to a poor liquidity of their shareholding, which renders our results suffer from reverse causality concerns. Foreign investors prefer firms with larger capitalization, lower stock volatility, higher export value and higher shareholding of top ten largest shareholders^{21,8,22,1} (Kang and Stulz, 1997; Dahlquist and Robertson, 2001; Covrig et al., 2006; Ferreira et al., 2008). We employ the shareholding of top ten largest shareholders as an instrumental variable, which can affect foreign ownership but not stock liquidity directly. Table 5 shows that Top ten shareholding is positively associated with foreign ownership. The second stage regression confirms the robustness of our earlier results, i.e. negative impact on stock liquidity.

Table 5 regression. Robust standard errors in parentheses. Significance indicated by *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

	(1) 1st stage	(2) 2nd stage
Foreign		0.049*** (0.018)

Top ten shareholder	0.046*** (0.003)	
Size	-0.230*** (0.033)	-0.854*** (0.096)
Market to book ratio	-0.001*** (0.000)	-0.001*** (0.000)
Stock volatility	0.027*** (0.002)	0.016*** (0.001)
# Observations	3984	3984
R-squared	0.283	0.105
Industry and year dummies	YES	YES

5. CONCLUSIONS

This paper investigates the relationship between foreign ownership and stock liquidity in China during 2010-2018. We find that foreign ownership has a negative effect on stock liquidity in the main board and SMEs board, but not in the GEM board. Foreign investors as informed traders can reduce stock liquidity due to adverse selection by their counterparties, and can also increase stock liquidity due to competitive effect. We find that the negative impact of adverse selection dominates the competitive effect.

With a continuous opening of the capital market in the country, Chinese listed firms that have joined the MSCI index since 2018, which will attract more foreign investors in the future. Foreign investment has grown rapidly in China in the recent decade. While foreign investment in developing countries have a substantial positive impact on stock liquidity, our paper casts doubt on their implications for stock liquidity brought by the entry of foreign investors in an emerging economy like China, where the presence of foreign shareholding is quite limited.

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