BLOCKHOLDERS, BOARD STRUCTURE AND LIQUIDITY: EVIDENCE FROM TUNIS STOCK EXCHANGE

Nadia Ben Sedrine*, Nadia Loukil**

Abstract

This paper investigates the effect of blockholders and board structure into stock liquidity in Tunisian market. We use five measures of liquidity in order to detect the multidimensionality of liquidity: immediacy cost, price impact, trading frequency, trading speed and total transaction cost. Results show that blockholders, insiders or outsiders, reduce trading speed, while ownership concentration and board characteristic effect on liquidity depend on liquidity dimension considered. Insider ownership concentration enhances price impact. Outsider ownership concentration induces a high trading activity. A large board size improve firm transparency reduces transactions cots. A high proportion of outsider directors increase trading speed.

Keywords: blockholders, board of directors, stock liquidity, Tunisian listed firms

*ISG de Tunis, Tunisia
** Corresponding Author: loukiln2002@yahoo.fr
Finance et Stratégie des Affaires (FIESTA), ISG de Tunis, Tunisia

1. Introduction

Recent research devote a considerable attention to examining the relation between corporate governance and market microstructure aspects of the firm (Gaspar and Massa, 2007; Chen et al., 2007; Kanagaretnam et al., 2007; Rubin, 2007, ect.). However, all these studies have analysed market liquidity in developed markets, those are quote-driven markets and most liquid in the World such as the United States. This study contributes first, to the existing empirical studies by investigating the governance characteristic (ownership concentration and board structure) and liquidity relationship on one emergent market, the Tunisian Stock Exchange.

Tunis Stock Exchange offers an interesting framework to investigate this relation because of its unique institutional environment. Last years, foreign investors have interested to investing in Tunisia. This is due to reforms undertaking that make an accelerated development. These reforms concern essentially market reorganisation, different intervenient, and their functioning also. The second contribution, we explore in this research more than one dimension of liquidity: immediacy cost, price impact, trading frequency and potential delay of executing an order, and total trading cost.

The paper is organised as follows. Section 2 presents literature review. Data is described in section 3. Section 4 reports univariate analysis and section 5 presents multivariate analysis. Section 6 concludes the paper.

2. Literature Review

2.1. Ownership

Previous research has proposed two major hypotheses by considering ownership and liquidity: the adverse selection hypothesis and investor recognition hypothesis. The first hypothesis postulates that controlling managers provide an informational advantage to controller, which induce a high level of information asymmetry and reduce liquidity (Grossman and Stiglitz, 1980; Glosten and Milgrom, 1985; Kyle 1985; Easley and O'Hara, 1987; Bhide, 1993).

The second hypothesis suggests that ownership dispersion reduce information asymmetry. Then, a high number of investors make shares familiar, which leads to an increase in investor interest and an increase in overall trading volume (Demsetz, 1968; Merton, 1987). When blockholders reduce their ownership, the number of liquidity traders increase, so liquidity is improved (Holmström and Tirole, 1993).

The empirical evidence on the relation between liquidity and ownership is inconclusive. Using a sample of American firms, Chiang and Venkatesh (1988) and Sarin et al. (2000) found a positive relation between insider ownership and spread, while Glosten and Harris (1988) reported no significant relationship between spread and insider ownership. Brennan and Subrahmanyam (1996) and Dennis and Wenston (2001) reported that insider ownership enhance probability of informed trading and reduce liquidity.

For American firms, Rubin (2007), using different measures of liquidity proxies, found that liquidity is related to institutional ownership rather than insider ownership. While, Kanagaretnam et al. (2007), studying corporate governance effect on information asymmetry around earning announcement, found that spread is inversely related to insider ownership, while depth is positively related to insider ownership.

Concerning ownership concentration, Kothare (1997) report that ownership concentration reduces transaction volume and flow continuity, so spread increase and depth decrease, while Herflin et Shaw (2000) show that firms held by blockholders, insiders or outsiders, have a larger quoted spread, effective spread, adverse selection components and smaller depths.

Using a sample of Norwegian firms, Naes (2004) detect a negative relation between ownership concentration and spread and information costs, and report weak evidence on the negative spread and insider ownership.

Comerton-Forde and Rydge (2006), using Australian data, found a non linear relation between insider ownership and liquidity (spread and turnover). A low level of insider ownership affects positively liquidity, while a high level of insider ownership affects negatively liquidity. They show also that owner concentration is related negatively to liquidity. For Canadian firms, Attig and al. (2006) find that greater deviation between ultimate owner and control induces a larger spread.

2.2. Board Structure

Corporate disclosure and governance literature has examined the effect of board structure on corporate disclosure and transparency. In fact, an effective monitoring by board of directors enhance the quality and the frequency of corporate disclosure (Ajinkya et al., 2005; Karamanou and Vafeas, 2005; Klein, 2002a).

Lipton and Lorsch (1992) and Jensen (1993) advance that small boards are more able to monitor management in less time and commit less effort, while Yermack (1996) and Adams and Mehran (2002) that some firms need larger boards for effective monitoring. Anderson et *al.* (2004) found that larger boards reduce the cost of debt, signifying that these boards provide greater overseeing of the financial accounting process.

CEO duality constrains board independency and weaken monitoring role of the board (Fama et Jensen, 1983; Brickley et *al.*, 1994; Worrell et *al.*, 1997). In addition, CEO duality reduces corporate disclosure (Forker, 1992; Gul and Leung, 2004).

Concerning outside directors, Fama (1980), Fama and Jensen (1983) have argued that outside directors bear reputation cost if the performance is poor, which lead to effective monitoring. In addition, Beasley (1996) found that the proportion of outsider on the board is related inversely the likelihood of financial fraud. Bhojraj and Sengupta (2003) posit that outside directors is inversely related to agency risks, which should lead to superior bonds ratings and lower debt yields.

Few researches investigated the direct relation between boards of directors and microstructure aspects of firms. Attig and Morck (2005), using a sample of Canadian firms, found that larger boards and outside directors is more important to reducing opacity (adverse selection component of spread). Using data from London Stock Exchange, Cai et al. (2006) show a negative association between board size and adverse selection, and a positive relation between CEO duality and probability informed trading.

Kanagaretnam et al. (2007) investigate effect of board director's characteristics to information asymmetry around earning announcement. They found that spread is inversely related to board independence, board activity, while depth is positively related to board structure and board activity.

3. Data

The data for this paper is provided by Tunis Stock Exchange and le conseil du marché financier (CMF). It contains closing day prices, best quoted ask, best-quoted bid, trading volume, financial statements. Ownership structure and board composition data are collected manually from two sources: annual reports and stock guide. These data cover the period 1999 to 2005. The sample comprises all ordinary common stocks that still listed in the market in 2005.

3.1. Liquidity

We use four liquidity measures in order to reflect more than one dimension of liquidity. The first is the quoted bid ask spread (BASQ**).** The second is share turnover (TURN), formed by dividing the number of shares traded by the number of shares outstanding. These two measures are monthly average of daily values calculated over the month. The third measure is the illiquidity ratio of Amihud (2002); it gives a daily impact of order flow on prices (Amihud, 2002). The fourth measure is trading speed proposed by Liu (2006). It is defined as the standardized turnover-adjusted number of zero daily trading volumes over prior month; this measure is a proxy of the potential delay or difficulty in executing an order.

Lesmond et al. (1999) establish a relationship between costs transactions and zero returns. They assume that if the transaction cost threshold is exceeded, there is no transaction. Following Bekaert et al. (2005) we construct proportion of zero returns, PZER, that determine total trading cost.

Quoted bid ask spread, turnover are multiplied by 100, while ILIQ is multiplied by 10^6.

3.2. Ownership And Board Characteristic

-Insider blockholders, INBH, is defined by the percentage of ordinary shares held by directors and managers, whose own more than 5%.

-Insider non-blockholders, INMI, is defined by the percentage of ordinary shares held by directors and managers, whose own less than 5%.

-Outsider blockholders, OUBH, is defined by the percentage of ordinary shares held by outsiders, whose own more than 5%.

-Board size, BSIZ, measured as the total number of directors on board.

-Outsider directors, ODIR, are defined as the number of outside directors on the board divided by the total number of directors.

-Duality, DUAL, is a dummy variable that equals 1 if the CEO and the chairman are different person (i.e. separation of functions) and 0 otherwise.

3.3. Controls

We use as control variables: return volatility, VOLT, is measured by standard deviation of return multiplied by 100. Transaction volume, TRAD, firm size measured by the logarithm of the market capitalisation in the end of previous year, SIZE, return on assets, ROA, leverage LEVR, industry dummy variables: FINA equals 1 if the firm has a financial activity; INDS equals 1 if firms have a manufacture activity.

4. Univariate analysis

4.1. Sample distribution

The table 1 reports descriptive statistics for this study's liquidity proxies: trading speed, total transaction cost, price impact, turnover, spread, and governance variables: CEO duality, board size, outsider directors, insider blockholders, outsider blockholders and insider non blockholders, and control variables: return on assets, leverage, and industry dummy, trading volume, firm size and return volatility.

Table 1. Statistics on Variables

	N	Mean	median	Std. Deviation	Skewness
LM	256	82,1919	54,2886	76,5905	0,7672
PZER	266	0,5143	0,5010	0,2689	-0,0207
ILIQ	256	28,5797	6,4568	85,4890	6,3238
TURN	256	0,0629	0,0309	0,0858	3,5868
QBAS	254	3,0006	2,2188	2,5031	3,5850
DUAL	260	0,6962	1,0000	0,4608	-0,8580
BSIZ	260	2,2660	2,3026	0,2094	-1,0912
ODIR	260	0,8443	0,8889	0,1060	-1,1942
INBH	220	0,5507	0,5728	0,2007	-0,3164
OUBH	221	0,0620	0,0000	0,1242	2,9665
INMI	215	0,0190	0,0000	0,0357	2,3032
ROA	300	0,0353	0,0247	0,0672	-0,5885
LEVR	300	0,4692	0,3577	0,4225	1,8371
FINA	260	0,5077	1,0000	0,5009	-0,0310
INDS	260	0,2923	0,0000	0,4557	0,9186
TRAD	256	2011,3785	1096,8060	3214,2099	6,2723
SIZE	280	74604017,8859	37300000,0000	96161712,6227	3,0777
VOLT	256	1,8017	1,4646	2,8525	11,7031

The median potential delay of executing order is 54 days, the median turnover is 0.03%, while the median immediacy cost, quoted bid ask spread, is 2.21%. The median price impact is 6.45. $10^{-6}$and the median proportion of zero return is 50%. The median insider block holdings is 57.27%, while for the half of the sample there is no insider non block holding and no outsider block holdings. The median board size is ten directors, the median percentage of outside directors 88%. Only 69% of chairman is also a chief executive officer. The table show that the median size of firms in the sample is 37 millions Dinars, the median trading activity is 1097 shares by day, the median return on assets is 0.02%, the median leverage is 35.7% and the median volatility is 1.46%. Firms of the sample are distributed as following: 50% are financial firms, 30% are manufacture firms, 20% services. Statistics report that ILIQ, TURN, QBAS, TRAD, VOLT, SIZE are highly skewed. As a result, we use the log of these variables.

4.2. Univariate Analysis

Table 2, exhibits correlation between all liquidity measures: spread, price impact, total transaction cost, trading speed and turnover in Panel A and shows correlation between illiquidity measures and board size, outsider directors, CEO duality in Panel B.

Table 2. Correlation matrix

Panel A:					
	QBAS	ILIQ	PZER	LM	TURN
QBAS	1				
ILIQ	0,7937***	1			
PZER	0,6207***	0,6816***	1		
LM	0,7736***	0,8072***	0,9100***	1	
TURN	-0,4205***	-0,5715***	-0,6561***	-0,5972***	1
Panel B:					
	LM	PZER	TURN	ILIQ	QBAS
DUAL	-0,0112	0,0063	-0,1331**	0,0090	0,0048
BSIZ	-0,2558***	-0,2047***	0,0078	-0,2753***	-0,2879***
ODIR	-0,1295**	-0,1047*	-0,1040	-0,0573	-0,0385
INBH	0,1378**	0,0427	-0,1766***	0,2048***	0,2855***
OUBH	0,0429	0,0451	0,0479	0,0720	0,0272
INMI	-0,2039***	-0,2723***	0,2328***	-0,1960***	-0,1494**

*significance < 10%, **significance < 5% and ****significance < 1%

Table 2, reports correlation matrix between liquidity measures, ownership, board structure and other variables. Panel A shows that spread, price impact, potential delay in executing an order and total transaction cost are positively correlated. In addition turnover is inversely correlated to other liquidity measures.

Panel B provides correlation between liquidity and governance variables. Board size is negatively correlated to spread, price impact, potential delay in executing an order and transaction, while outside directors is negatively correlated to potential delay in executing an order and trading cost.

Price impact and spread are positively correlated to insider blockholders and negatively correlated to insider non-blockholders. Turnover and trading speed are positively correlated to insider non-blockholders and negatively correlated to insider blockholders. Outsider blockholders are not related to liquidity measures.

4. Multivariate analysis

In this analysis we test if blockholders and board structure affect liquidity. The model that we test is the following:

$$Liquidity = b_0 + b_1\, INBH + b_2 INMI + b_3 OUBH + + b_4 BSIZ + b_5 ODIR + b_6 DUAL + b_7 TRAD + b_8 VOLT + b_9 SIZE \quad (1)$$

$$b_{10} ROA + b_{11} LEVR + b_{12} FINA + b_{13} INDS + \varepsilon_t$$

Cross-section regression analysis allows controlling observations heterogeneity in their individual's dimensions, either by assuming a certain specific effects, or by assuming non-observable specific effect. In order to discriminate fixed effects or random effects, we apply specification test of Hausman (1978). We have noted that our model is a model with fixed effects when we use spread as liquidity proxy and random effects for other measures. We apply also Wald test for autocorrelation in panel data. We have concluded that there is a first order autocorrelation. And in order to correct this autocorrelation we use cross-section regression with AR (1) disturbances.

Table 3

Dependent	QBAS	ILIQ	LM	PZR	TURN
INBH	0,5030	1,3218**	53,5886**	0,1423	-0,1807
INMI	2,8288	-2,3491	111,0378	0,1780	-0,8109
OUBH	-0,2291	0,0433	74,0112*	0,1058	0,9435***
BSIZ	-0,1862	-0,2466	-12,8249	-0,2419***	-0,1770
ODIR	-0,9354	0,0046	-70,0502*	-0,0960	0,1567
DUAL	0,0752	-0,2666	8,1200	0,0001	0,0104
TRAD	-0,1175***	-0,5352***	-14,9970***	-0,0544***	0,9464***
VOLT	0,2357***	0,8675***	-3,7986	-0,0308	0,0080
SIZE	-0,2128**	-0,4059***	-7,7746**	-0,0123	-0,2549***
ROA	-0,0934	-7,0540***	-216,8550***	-0,6116***	0,2048
LEVR	0,3860	-0,6975	-77,6616***	-0,1272*	-0,6031***
FINA	No	1,2597	59,4013***	0,2426***	-0,2567
INDS	No	0,5739	28,8272*	0,0931	0,0045
CONST	5,9904***	12,0170***	368,4249***	1,5862***	-4,6033***
R squared	0,2334	0,7893	0,6718	0,6237	0,7001

*significance < 10%, **significance < 5% and ****significance < 1%
FINA and INDS are dropped from specification (1) due to collinearity.

Table 3 provides that only a few of governance variables have an effect on liquidity measures. Insider blockholders has a positive effect on immediacy cost, proportion of zero return, price impact, potential delay of executing an order, and a negative effect on turnover. But these effects are significant only on price impact, potential delay of executing an order. This result suggests that insider blockholders are associated with a high level of information asymmetry, which induces a high level of price impact and more time to execute an order.

Results, in table 3, show also that outsider blockholders have a positive and significant effect on the potential delay of executing an order and on turnover. For other variables the effect is positive and no significant. This result suggests that outsider blockholders have an informational advantage which induces a high potential delay to execute an order. The positive effect on turnover indicates that outsider blockholders have a high level of trading activity.

Insider non-blockholders and duality have no significant effect on liquidity measures.

The negative and significant coefficient of board size on proportion of zero-return suggest that large board are more effective and enhance the transparency of the firm, then reduce transactions costs.

Finally the negative and significant effect of outside directors on potential delay to execute an order suggests that boards are more effective when the board has higher proportions of outside directors.

For control variables, table 3, shows that trading activity have a negative and significant effect on spread, potential delay of executing an order, price impact and total transaction cost and positive and significant effect on turnover. Volatility has a positive and significant effect on spread, price impact and negative and significant effect on total transaction cost, while firm size has a negative and significant effect on all liquidity measures.

Return on assets has a negative and significant effect on all liquidity measures except turnover and leverage has a negative and significant on LM, PZER and TURN, while industry dummy have a positive effect on LM, PZER and ILIQ.

6. Conclusion

Results show that ownership concentration and board characteristic effect on liquidity depend on liquidity dimension considered. Insider ownership concentration induces a high level of information asymmetry, which reduces trading speed and enhances price impact. Outsider ownership concentration induces a high trading activity and reduces trading speed. A large board size improve firm transparency reduces transactions cots (PZER). A high proportion of outsider directors are associated to low level of information asymmetry, which increases trading speed.

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