

## **Impact of Institutional Investors on Information Asymmetry, and Stock Market Liquidity: Evidence from Pakistan**

Muhammad Arif<sup>\*</sup>, Himayatullah khan<sup>†</sup> And Khurshed Iqbal<sup>‡</sup>

### **Abstract**

*The current study aims to explore the effect of institutional investors on the stock market liquidity and information asymmetry in the non-financial sector of emerging Pakistan Stock Exchange (PSX). This study is based on a sample of four most populated sectors among a total population of 12 non-financial sectors in PSX. The sample sectors are textile, food, chemical & pharmaceutical, and cement while the data for the said sample were collected for a period of 10 years, that is, from 2006 to 2015. The current quantitative data have been collected from sources such as annual reports, published reports of the State Bank of Pakistan (SBP) and official website of PSX. The findings of the study were based on reliable models used for data analysis like the panel data regression model and fixed effect model. The findings of the study proved that the institutional investors have positive and significant effects on the market liquidity and information asymmetry while the findings are in agreement with signaling theory.*

**Keywords:** PSX, Market Liquidity, SBP, information asymmetry, and Fixed Effect Model.

### **Introduction**

The stock markets of any country always support the movement of capital required for the growth of funds. The markets should finance those businessmen who are always searching for the new innovative products and new production process and the allocation of capital efficiency and they always introduce updated technology in the business. The liquidity can be described as “the ease of converting or transacted the assets into cash of any other medium of firm transaction cost”. The decrease in the cost related to the conversion of assets into cash can encourage the long term investors to invest in the market. The

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<sup>\*</sup> Muhammad Arif, PhD Scholar in Finance, Department of Business Administration, Iqra National University, Peshawar, Pakistan. Email: [drarifinance@gmail.com](mailto:drarifinance@gmail.com).

<sup>†</sup> Dr. Himayatullah khan, Director Institute of Development Studies, The University of Agriculture Peshawar, Pakistan.

<sup>‡</sup> Dr. Khurshed Iqbal, Assistant Professor & chairman Department of Business Administration, Iqra National University, Peshawar, Pakistan.

institutional investors are the most significant stockholders internationally as expressed by the statement that the institutional investors had 50 to 60 percent of the shares of the large firms in the European Markets (Brossard *et al*, 2013).<sup>1</sup> The statement can be seen as logical when the institutional investors hold a majority of the shares of the firm that they can easily affect their payout policies easily. The study of Becht *et al.*, (2003) has discussed different types of firm's decisions which by different researches confirmed that the institutional investors have effects on the corporate payout policy.<sup>2</sup> The institutional investors have special features which can affect their capabilities to pressurize the firm's management to take that decisions which can give benefits to the firm's shareholders. In the market, the institutional investors can be considered as more informed and can be treated as more influential as compared to the individual investors. Equally, the institutional investors are the financiers who are working for their own interest rather than the interest of their principals.

### **Problem Statement**

The market development is the phenomena for any country, i.e. the development of their financial markets and financial institutions is the most significant and inextricable part of the process of growth. The liquidity is the ease of converting or transacted the assets into cash of any other medium of firm transaction cost. Empirical studies have considered the institutional investors as the most informed and efficient financier of the capital markets due to the fact that they can manage huge number of assets and they have ease of access to the private information available in the market (Fehle, 2004).<sup>3</sup> The gap of the study is taken from the study of Ajina *et al.*, (2015) which suggests that the majority of the previous studies have considered the investors only as a homogenous group. So, the current study has taken the investors as a heterogeneous and evaluates the investors both from active and passive perspectives.<sup>4</sup> The current study has explored whether institutional investors affect information asymmetry and stock market liquidity in Pakistan. The concept of information asymmetry contains two financiers i.e. informed financier (institutional investors) and uninformed financier (minor shareholders or individual shareholders) have negative effects of the liquidity of the market, which concludes the adverse theory hypotheses. The current study has attempted to explore the signals (positive and negative) transmitted to the markets and the reactions and decisions taken by the informed and uninformed financier in this regards. The present study has analyzed the level of informational asymmetry for institutional investors in particular and individual investors in Pakistan

Stock Exchange (PSX) in general. Moreover, the following research questions have been developed:

#### *Research Questions*

- 1) Is there any role of institutional investors in information signaling and stock market liquidity?
- 2) Does the stock market liquidity and institutional investors possess positive relationship?
- 3) What is the relationship between firm ownership and stock market liquidity?

#### *Objectives of the Study*

- 1) To analyze the effect of institutional investors on information asymmetry in Pakistan Stock Exchange (PSX).
- 2) To check the combined effect of institutional investors and market liquidity in all sectors as a whole.
- 3) To understand the time effect of one year on another year in the sample sectors in the sample time period.

#### **Literature Review**

The study of Collier and Yohn (1997) examined the sample firms of 278 and analyzed quarter firm information of earning forecasts to evaluate that the financial managers estimate their forecasts to decrease the information asymmetry.<sup>5</sup> The study presented that the bid-ask spreads before and after the manager issue the forecasts suggested that, with the help of formal earnings announcements, the investors in the market increase the bid-ask spreads as it is the way to protect the investors with high processing abilities. The study did not find, however, the bid-ask spread increase after the announcement of manager forecast. These findings are explained based on the fact that forecasts of the management are unanticipated by the market investors.

The study of Demsetz (1968) suggested the bid-ask spread as the measurement of degree of firm market liquidity. The spread of bid-ask addresses the unpleasant selection issue which arises from managing the shares of the firm with the presence of asymmetrically informed investors. The low information asymmetry involves low adverse selection, which leads to the low spread of bid-ask prices. The literature of market microstructure suggested that the bid-ask spreads possess 3 components, inventory holding costs, adverse selection cost and order processing costs. These components are relying on the quote-driven systems.<sup>6</sup> Heflin et al, (2001) concluded that the information asymmetry is significant for the market liquidity.<sup>7</sup> The high quality disclosure of

accounting reports are considered as the sources to decrease the information asymmetry among the shareholders and it leads to increase the capabilities of equity shareholders to efficiently trade when they required at a low and reasonable cost. In addition, they concluded that the high quality disclosure can lead to increase the market liquidity with the help of increasing the quoted depth and lowering the spreads. Leuz and Verrecchia (2000) evaluated those firms who are reporting on the basis of international accounting standards. The study concluded that the firm can take benefits from the lower spreads and high transaction volume so to increase the market liquidity. However, by exploring the firms of unorganized market securities, the study of Skinner (1991) explored that the spreads of bid-ask might not be changed around the earning announcements. The spreads might increase after the announcements which transmit large earnings surprises to the shareholders, so the process of the market the earning release differently. Gillan and Starks (2007) concluded that the institutional investors can prompt the governance changes which better discipline the firm management by the process of trading of shares. Similarly, Aggarwal et al, (2011) concluded that the high institutional ownership can lead to increase the likelihood that the low performance CEO will be terminated and then the firm value will be higher.<sup>8</sup> The institutional ownership can help in controlling the earning of the firm. The association among the liquidity and institutional investors can be dependent on the development from the signaling theory. The institutional investors are capable to conduct the monitoring tasks on firm's management, and this will transmit the positive signal to the participants in the market. This will lead the investors to invest in these firms and make higher the trading volume. Bartov et al, (1998) found that the companies with high institutional ownerships will always prefer to repurchase more shares in the firm. The study argued that the firms always prefer repurchase over the dividend to decrease the firm tax burden on the taxable stockholders of the firm. The reasoning of the study can lead to explain that a preference for repurchase by the institutes, but unlike the adverse selection theory, these effects of taxes might not be more visible in the firm having high information asymmetry.<sup>9</sup>

## **Research Methodology**

### *Data Specification*

The current research study is quantitative in nature. The variables are calculated from the information reports published by the sample non-financial firms. There are 399 non-financial firms in 12 boarder sectors listed in Pakistan Stock Exchange (SBP, 2013). For the objective of getting in-depth results, the current study selected four sectors, that is, textile, food, chemicals and pharmaceuticals and cement sector for the data analysis. After final calculation of the listed firms in the sectors, the sample becomes 280 non financials firms. The current study collected data from 2006 to 2015. The data of ask and bid prices were collected from the official web site of Pakistan Stock Exchange, Business Recorder and, also, the data was collected from the Yahoo Finance.

#### *Variables Specification*

##### *Institutional Investors*

The institutional investors were measured by the shares held by the different outsider firms in the current firm as compared to the total number of shares of the current firm.

$$INV = \frac{\text{Shares held with other firms}}{\text{Total shares}}$$

##### *Stock Market Liquidity*

The stock market liquidity was measured by the volume of closing index of KSE-100 index from the PSE official website.

$$SML = \text{Volume index KSE 100 index}$$

##### *Information Asymmetry*

In the current study the information asymmetry was measured by the bid-ask spread and the concept of this measurement was taken from the theoretical models suggested by Amihud and Mendelson (1986), Kyle (1985) and Glosten and Harris (1988).

$$\text{Quoted Spreads} = \frac{Ask_t - Bid_t}{\frac{Ask_t + Bid_t}{2} - P_t}$$

$$\text{Effective Relative Spread} = 2 \frac{\frac{Ask_t - Bid_t}{2}}{\frac{Ask_t + Bid_t}{2}}$$

##### *Size (SZ)*

The current study took the log of the total assets (current and noncurrent assets of the firm) as the proxy of firm size.

$$SZ = \log(\text{Total Assets})$$

##### *Leverage*

The current study used the ratio of total debts to total equity due to the fact that majority of the small firms in Pakistan are using short term financing (Shah and Hijazi 2004).

$$LEV = \frac{TotalDebts}{Total\ equity}$$

### Expected Growth (EG)

The current study used the growth as another control variable of the study.

$$EG = \ln \frac{Current\ year\ assets}{Previous\ year\ assets}$$

### Model Specification

On the basis of the nature of the data, the current study used panel data regression for the data analysis.

$$SML_{it} = \alpha + \beta_1 IINST_{it} + \beta_2 SZ_{it} + \beta_3 LEV_{it} + \beta_4 GR_{it} + e_{it} \quad (1)$$

$$INF_{it} = \alpha + \beta_1 IINST_{it} + \beta_2 SZ_{it} + \beta_3 LEV_{it} + \beta_4 GR_{it} + e_{it} \quad (2)$$

## Results and Discussions

Table 1: Correlation Coefficient Matrix

Variables	SML	INF	INI	SIZE	LEVERAGE	GROWTH
SML	1.0000					
INF	-0.3194	1.0000				
INI	-0.3786	0.1895	1.0000			
SIZE	0.1796	-0.3999	-0.2481	1.0000		
LEVERAGE	0.0004	0.0341	0.0050	0.0257	1.0000	
GROWTH	-0.1743	-0.2073	0.0697	-0.0172	-0.0030	1.0000

Table 1 shows that prior to estimate the panel econometrics techniques the study also tested the problem of multicollinearity. The findings are predicted in the above table, which shows that no cause of such problem of multicollinearity exist among explanatory variables.

Table 2: Market Liquidity

Variable	Textile	Food	Chemical &Pharmaceutical	Cement
INI	.29 (2.45)	.30 (3.91)	.22 (4.55)	.17 (2.23)
Size	-.05 (-2.30)	-.156 (-2.20)	.230 (.10)	-.024 (-3.87)
Leverage	-.003 (-1.78)	.029 (0.25)	-.161 (-2.01)	-.404 (-18.01)
Growth	-.061 (-1.11)	.082 (2.0)	-.21 (-1.65)	-.39 (-2.22)
R-square	.31	.33	.41	.43
P-value	.00	.00	.00	.00

*T-statistics are reported in parenthesis, Imply significant p value < 5%*

The findings of the study in the above table 2 shows that the institutional investors have negative but significant effect on the market liquidity in textile, food, chemical and pharmaceutical and cement sectors. Bushee and Goodman (2007) find that changes in institutional investors'

ownership are consistent with trading on private information. This should exacerbate information asymmetry, increase the adverse selection costs and decrease stock market liquidity (Ajinkya et al., 2005). Within this context, Glosten and Milgrom (1985) suggest that the market maker faces adverse selection costs due to the presence of institutional investors because these investors' proportion of trades is high; the immediate supply service forces the market maker to manage his assets at a high price.<sup>10</sup> The adverse selection hypothesis is confirmed by several empirical studies. Sharma (2005) studies the issue of institutional investors on a sample of 150 Indian companies. He shows that institutional investors' capital share is not significantly related to stock liquidity. Aslan et al. (2007) find strong evidence that firms with higher institutional ownership have a higher probability of informed trading. Boehmer and Kelley (2009) obtain empirical evidence that institutional investors improve the informational efficiency of prices. The firm size has significant effects on the textile, food and cement sector while it has insignificant in the chemical and pharmaceutical sector.

The leverage has insignificant effects in the textile and food sectors and have significant effects in the cement and pharmaceutical sectors. The growth has significant effects in the food and cement sectors while chemical and pharmaceutical and textile sectors. Within the governance theoretical framework, shareholding activism is considered an alternative monitoring mechanism likely to reduce agency costs and conflicts of interests between majority and minority shareholders. Institutional investors' behaviour (passive or active) and the incentive to control a company's governance policy depends on the size of their portfolios, on their investment horizon, which might go from short to long term, and the nature of their relationships with a company (Bushee and Noe, 2000 and Chen et al., 2007).<sup>11</sup>

The findings of the study in the above table 3 shows that the institutional investors have negative but significant effect on the information asymmetry in textile, food, chemical and pharmaceutical and cement sectors. This finding is in opposition with the adverse selection hypothesis, which considers institutional investors as informed agents who might exacerbate informational asymmetry on the market.

Table 3: Information Asymmetry

Variable	Textile	Food	Chemical &Pharmaceutical	Cement
INI	.10	.19	.17	.13

	(2.66)	(3.01)	(2.11)	(2.09)
Size	-.21	-.252	.310	-.214
	(-1.31)	(-2.99)	(5.67)	(-2.65)
Leverage	-.313	.090	-.271	-.351
	(-2.38)	(0.67)	(-2.88)	(-4.71)
Growth	-.19	.21	-.22	-.29
	(-1.78)	(2.31)	(-2.13)	(-2.34)
R-square	.23	.29	.25	.26
P-value	.00	.00	.00	.00

*T-statistics are reported in parenthesis, Imply significant p value < 5%*

The relation converges with Boehmer and Kelley's (2009) finding. The firm size has significant effects on the food, pharmaceutical and cement sector while it has insignificant in the textile sector. The leverage has insignificant effects in the food and has significant effects in the textile, cement and pharmaceutical and cement sectors. The growth has significant effects in the food and cement sectors while insignificant effect in chemical and pharmaceutical, and textile sectors.

### Conclusion

The current study was conducted in the non-financial sectors of Pakistan in Pakistan Stock Exchange. The study conducted analysis on the basis of sectors. The relationship among the institutional investors and market liquidity is positive which is consistent with the signaling theory and trading hypotheses. The institutional investors are helping in heavy transaction that they are doing for to manage their portfolios which ultimately affect the liquidity. The findings suggested that institutional shareholding, have significant effect on the market liquidity and information asymmetry. The institutional investors have special features which can affect their capabilities to pressurize the firm's management to take that decisions which can give benefits to the firm's shareholders. In the market, the institutional investors can be considered as more informed and can be treated as more influential as compared to the individual investors. The institutional investors have special features as compared to the individual to affect the decisions of the management. Some of the theoretical studies have suggested that the information asymmetry can strongly influence on the market liquidity. The studies of Pfleiderer (1988) and Holden and Subrahmanyam (1992) have introduced models regarding the influence of information asymmetry and liquidity. Due to information with the agents, they compete aggressively with their competitors in the market.

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