# Flight to Liquidity Risk, Multiple Liquidity Measures and Equity Returns: Evidence from Pakistan Stock Exchange

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**Abstract**

*The current study examines flight to liquidity risk and asset pricing in an emerging market of Pakistan Stock exchange during 2005-2015. As liquidity is a multidimensional phenomenon, the difficulty to incarcerate its various traits has made this topic interesting and challenging for doing research. Multiple measures of liquidity have been used in the study. Innovations in illiquidity are transformed through autoregressive process. The findings of the study strongly support the evidence of pricing of flight to liquidity risk in stock market of Pakistan.*

**Keywords:** Equity Returns, Innovations in illiquidity, Market liquidity, Flight to liquidity and Pakistan stock market

## Introduction

Recently a large portion of financial studies is comprised upon market liquidity of equities. Initially the interaction between equity returns and liquidity of assets at individual level has been discussed (Amihud and Mendelson, 1986; Datar et al., 1998). Another phase came in financial literature of liquidity is the analysis of commonality in liquidity of equities that has investigated the co-movement of individual liquidity of assets and market liquidity (Chordia et al., 2000). Acharya and Pedersen (2005) proposed liquidity adjusted capital asset pricing model (LCAPM) and introduced the link between different channels of liquidity risks and asset pricing. Liquidity risks included in LCAPM are Commonality in liquidity, Flight to liquidity and depressed wealth effects of liquidity. Lee (2011), Kim and Lee (2014), Butt and Virk (2015) and Vu et al (2016) employed LCAPM model and investigated the role of different types of liquidity risks in asset pricing of developed stock markets. However, Chen et al (2016) studied flight to liquidity risk in NYSE stocks arguing, flight to liquidity risk is an important domain among liquidity risks. The deficient area or ignoring area in the previous researches is in-depth

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analysis of flight to liquidity risks using multiple proxies of liquidity in emerging market like Pakistan is missing. Chen et al (2016) used trading volume (TC) to measure flight to liquidity risk in a developed market. As liquidity is multi dimensional, therefore one proxy is not enough to examine flight to liquidity risk. The aim of the current study is to investigate whether flight to liquidity risk is priced in the context of multiple measures of liquidity in Pakistan stock exchange or not?

The study contributed in liquidity literature in many ways. Firstly the study measures flight to liquidity risk through various proxies to capture various traits of liquidity in Pakistan stock exchange in contrast to Chen et al (2016). Amihud Ratio (2002) and LOT measure of zero return are used to capture the price impact and depth aspects of liquidity. Roll estimator is employed to measure the transaction cost and resilience aspects of liquidity. Breadth aspect of liquidity is analyzed by using Amivest liquidity. Secondly the research is conducted on an emerging market in contrast to Lee (2011), Kim and Lee (2014), Butt and Virk (2015) and Vu et al (2016). Thirdly the study analyzes that flight to liquidity risk is sensitive to different liquidity measures.

According to Acharya and Pedersen (2005) flight to liquidity risk originates when investors trade-off between holdings of illiquid assets with holding of liquid assets. They want to liquidate illiquid assets from their portfolio and include liquid assets in it. Therefore co-movement exists between stock returns and market illiquidity. Investors prefer to take lower returns on liquid assets because the asset's return has positive covariance with market illiquidity. Therefore flight to liquidity risk has negative relationship with equity returns. Flight to liquidity can also be demonstrated through demand side of liquidity. According to Vayanos (2004), investors liquidate their positions in the situation of decline in prices of stocks below a lower bound in financial market. This liquidation risk causes flight to liquidity and investors demanding low returns in liquid assets and avoids investing in illiquid assets. As illiquid assets are riskier and investors become risk averse during volatile times. Naes, Skjeltorp and Odegaard (2011) show the link between composition of investor's portfolio and stock market liquidity. Investor's portfolio depends upon the changes in market liquidity. Illiquidity in market causes to replace less liquid stocks with more liquid stocks. The results of the study enable the domestic investors to design investment strategies in making portfolios in illiquid conditions. Moreover the current study is significant at international level. As Pakistan is declared the best emerging market by MCSI and considered as the best frontier market during last five years. Investors from different regions crave to know much about this market especially in the context of liquidity risk and

liquidity cost because investors demand liquidity, liquidity and liquidity from any financial market (Handa and Schwartz 1996). Moreover the study is also beneficial to regulators for maintaining or improving the competitiveness of Pakistan stock exchange among emerging markets of Asia.

In line with Vu et al (2016) fixed effect panel regression has been employed on the monthly data of nonfinancial listed stocks to know the impact of flight of liquidity risk on equity returns of Pakistan stock exchange during July 2005-June 2015.Similarly in order to avoid autocorrelation innovations in illiquidity proxies have been measured to determine the market liquidity of Pakistan stock exchange.

The paper has been organized in five sections. Second section presents the theoretical and empirical literature review of the study. The discussion about data and methodology is given in third part of the study. Findings with discussions are explained in fourth section of the study. At the end analysis and conclusion of the research is narrated.

**Review of Literature**

Amihud and Mendelson (1986) used high frequency liquidity measure Bid-ask spread and report positive relationship between illiquidity and equity return in a developed market.

Another drive in liquidity literature stems with the paper of Chordia et al (2000), propose liquidity as liquidity risk. The sensitivity of individual stocks with shocks of liquidity introduces commonality in liquidity. Acharya and Pedersen (2005) extend the literature of liquidity in finance by proposing different types of liquidity risks in liquidity adjusted capital asset pricing model. This model not only encounters the liquidity cost as stock characteristics but also includes different channels of liquidity risks such as liquidity commonality, flight to liquidity risk and depressed wealth effect. Lee (2011) has tested LCAPM globally and found pricing of illiquidity risks in international capital markets.

Papavassiliou (2013) , Butt and Virk (2015) and Hirvonen (2016) have tested LCAPM model in Greece and Finland and found LCAPM specifications perform better in explaining equity returns as compared to CAPM. Kim and Lee (2014) and Vu et al (2016) use multiple measures of liquidity focusing the multi dimensional liquidity and test the LCAPM model in developed exchanges. Their findings imply the pricing of liquidity risks in these stock markets.

The liquidity literature in the context of emerging market in LCAPM framework is scarce. The initial studies on emerging markets are Hongxing and Duduchoge (2017) and Quirós and Quirós (2017) They report weak evidence of pricing of other risk channels flight of

liquidity and depressed wealth effects of liquidity risks in Ghana stock market and Portuguese stock market .

Chen et al (2016) investigated flight to liquidity risk using trading volume separately in developed stock market arguing important domain of liquidity risk among individual risks of illiquidity. Goyenko and Sarkissian (2010) also examine flight to liquidity risk globally using short term treasury bills and have found flight to liquidity risk is an important determinant of equity returns. The current study in line with Chen et al (2016) and Goyenko and Sarkissian (2010) attempts to analyze the flight to liquidity risk in an emerging market of Pakistan in a time span of 10 years starting from July 2005- June 2015. The current study focuses on multi dimensional liquidity and using multiple measures of liquidity in contrast to these studies (Goyenko and Sarkissian, 2010; Chen et al, 2016). Moreover the study is using low frequency measures of liquidity because high frequency data is not maintained in emerging market of Pakistan.

**Theoretical Framework**

Standard models of asset pricing assume that market is frictionless. Asset can be traded easily because sell and buy orders at the same price are readily available for any volume. Therefore investment decision is based upon risk and return relationship (Markowitz 1952). Cohen (1986) proposed market microstructure theory. According to this theory market is not frictionless. Stoll(2000) groups frictions in to two categories real friction and informational friction. Real friction results due to deficit in market organization and affect the participants of market in a same fashion. Some investors are less informed than others therefore unequal reallocation of wealth among market participant results due to informational frictions. Due to these frictions liquidity becomes the additional factor that investor considers in investment decision.

Liquidity is multi dimensional that's why it is very difficult to define it. Harris (1990) discussed various dimensions of liquidity such as depth, breadth, immediacy and resilience. Aitken and Comerton-Forde (2003) propose liquidity is the capability of easily convertibility of shares in to cash at negligible transaction cost and focus only on breadth dimension of liquidity. Amihud (2002) discuss the resilience dimension of liquidity and state it as influence of order flow on the price of equities. However Chollete et al (2007) demonstrate various dimensions of liquidity and suggest liquidity is the ability to trade large quantities of shares quickly at low cost with least price impact. Large quantities of shares focus on depth dimension of liquidity. Quickly and low cost

reflects immediacy and width aspects of liquidity. Least price impact reveals resilience and depth dimensions of liquidity.

Standard models of asset pricing ignore liquidity. Acharya and Pedersen (2005) trap the ignorant factor liquidity in its model liquidity adjusted capital asset pricing model (LCAPM). LCAPM not only inculcates liquidity as a characteristic of stock but it also proposes different channels of liquidity risks including liquidity commonality, flight of liquidity risk and depressed wealth of liquidity.

Flight to liquidity risk is one of the types of liquidity risks proposed by Acharya and Pedersen (2005) in their model. The shocks of liquidity force the investors to include more liquid stocks in their portfolio. Investors accept lower returns on liquid stocks because the liquidity of these stocks is not affected with illiquidity of market. In illiquid conditions it is very difficult to sell securities and in result the price of securities could be affected. The investors in order to trade pay premium for securities that yield high returns. The higher price includes the element of illiquidity premium. Therefore, Flight to liquidity risk is negatively priced in equities. The current study attempts to examine this theory in an emerging stock market of Pakistan. This theory leads to generate the following hypothesis

*Hypothesis*

$H_{0=}$ Flight to liquidity risks has a negative impact on equity returns of Pakistan stock exchange.

$H_{1=}$ Flight to liquidity risk has no impact on equity returns of Pakistan stock exchange.

**Data and Methodology**

In line with Kim and Lee (2014) the current study uses various liquidity proxies to measure the multi dimensional aspects of liquidity. Amihud Ratio (2002) and zero return are used to capture the price impact and depth aspects of liquidity. Roll estimator is employed to measure the transaction cost and resilience aspects of liquidity. Breadth aspect of liquidity is analyzed by using Amivest liquidity.

Moreover flight to liquidity risk is determined with in Fama and French (1992) framework after taking in to account firm size and momentum. Monthly data of volume, share and prices of all non financial firms listed in Pakistan stock exchange from July 2005 to June 2015 have been collected from the web sites of business recorder and open door. The current study employs data filtering procedure similar to Kim and Lee (2014) for inclusion of stocks in the sample of study. Stocks must have 100 positive trading volume days during the year to be

included in the sample period. During the sample period if any stock splits occur that stock will be excluded from the study for that year. Stocks having positive market to book ratio and market capitalization are included in the sample. The sample of the study is comprised of 260 non financial stocks after screening of data.

**Operational definition of liquidity Measures**

**Amihud Ratio**

Amihud (2002) is used to capture the depth and price impact of liquidity. The imbalance in order flow causes to change the prices of securities. The equities having minimum price impact in result of disturbance in order flow are liquid in nature.

$AM = | ER_{it} | / PV_{it}$

$PV_{it}$ is the product of price and volume for the security i of monthly time period t. $| ER_{it} |$ is the absolute return of security i for the monthly time period t. High value of Amihud ratio indicates more price impact and less market depth.

**Zero Return**

Lesmond et al (1999) proposed another illiquidity proxy zero return for measuring the depth capturing aspect of illiquidity. It is measured as

$$\mathbf{ZR=N_{(it)}/T_{(it)}}$$

Less frequent price movements are observed for securities having high transaction cost that lead to more zero return days. High value of zero return days shows that market is illiquid. $\mathbf{N}_{(it)}$ is the number of zero return days of security i during monthly time period t. $\mathbf{T_{(it)}}$ is the number of total trading days of security i for monthly time period t.

**Roll Estimator**

Goyenko et al (2009) proposed the improved version for measuring the transaction cost feature of liquidity. Roll estimator is measured as

$$Roll = \begin{cases} 2\sqrt{-Cov(\Delta Pt, \Delta Pt-1)} & \text{When } Cov(\Delta P_t, \Delta P_{t-1}) < 0 \\ 0 & \text{When } Cov(\Delta P_t, \Delta P_{t-1}) \geq 0 \end{cases}$$

The negative autocorrelation has been observed between prices of securities when bounce exists between bid and ask prices. More bounce in bid and ask price causes high value of Roll estimator that shows high transaction cost indicating market is less liquid and less resilient.

**Amivest Liquidity**

Cooper, Groth and Avera (1985) developed a proxy to measure the breadth aspect of liquidity. Amivest illiquidity is determined through this formula.

$AL_{it} = PV_{(it)} / |\%\ PC_{(it)}|$

The absolute percentage change in prices of security i during time period of month t is represented by % $PC_{(it)}$ . $PV_{(it)}$ is the product of price and volume of security i for the monthly time period t. Amivest liquidity determines the effect on dollar volume of trading due to one percent change in prices. High value of Amivest liquidity indicates shares can be traded in large volume without the significant movement in price of security showing high market breadth.

**Firm Size**

Firm size represents the market price of all the shares of nonfinancial firms outstanding during the month in a financial market of Pakistan stock exchange. It is measured in the study as

Firm size = ln $(MC)_{it}$

Where $(MC)_{it}$ is the market capitalization of security i during the monthly time frame t.

**Momentum**

Momentum is the tool to measure the trend in prices of equities. It is measured as cumulative return of past twelve months with one month lag.

Momentum = $\sum R_{t12} - R_{t-1}$

**Stock Returns**

Monthly stock returns for all the non financial firms listed in Pakistan stock exchange are calculated by using the formula

$SR_{(it)} = \ln (P_{(it)}/P_{(it-1)})$

$SR_{(it)}$= Return of stock i of non financial firms listed in Pakistan stock exchange during month t.

$P_{(it)}$ = Closing price of security i during monthly time period t.

$P_{(it-1)}$= Closing price of security i at the end of month t-1.

**Flight to liquidity risk**

Acharya and Pedersen (2005) developed a liquidity adjusted capital asset pricing model for measuring liquidity cost and liquidity risk. LCAPM model proposes flight to liquidity risk on the basis of notion of Pastor and Stambaugh (2003). According to Pastor and Stambaugh ; investors are not willing to include those stocks in portfolio whose returns are more sensitive to market liquidity. As illiquid stocks are costlier to trade in financial market. Therefore investors include liquid stocks in portfolio and prefer to accept low returns for such stocks that remain liquid in illiquid market conditions. The flight to liquidity risk is measured as

$$\beta_i^1 = \frac{cov(c_t^i - E_{t-1}(c_t^i), c_t^M - E_{t-1}(c_t^M))}{var(r_t^M - E_{t-1}(r_t^M) - [c_t^M - E_{t-1}(c_t^M)])} \quad \text{..... (1)}$$

Where as

$$c_t^i = \alpha_0 + \alpha_1 c_{t-1}^i + \alpha_2 c_{t-2}^i + \ldots\ldots\ldots + \alpha_x c_{t-x}^i + \lambda_4 \mu_t^i \quad \text{..... (2)}$$

$c_t^i$ = illiquidity measure of security i during monthly time frame. Number of lags in the autoregressive process ($AR_2$) is represented by x. The residuals in liquidity measure for stock i during month is $\mu_t^i$.In line with Lee (2011) and Vu et al (2016) innovations in liquidity measures are calculated through AR (2) process in order to mitigate the problem of autocorrelation. The stock liquidity as residuals of AR (2) can be written as $c_t^i - E_{t-1}(c_t^i)$. Market liquidity is the aggregate sum of all the residuals of AR(2) process of each illiquidity ratio. It is measured as $c_t^M - E_{t-1}(c_t^M)$.

According to Vu et al (2016) betas are calculated at portfolio level and then these betas are assigned to individual stocks for accurate estimation of results. In order to avoid biased result betas are not calculated at individual level (Fama and French, 1992).

*Betas estimation for Decile portfolios*

According to their level of liquidity (stock illiquidity) decile portfolios are prepared and flight to liquidity risk beta $\beta_i^1$ is calculated according to the formula presented in equation 1. Each portfolio is comprised of 26 stocks of non financial firms listed in Pakistan stock market. Monthly betas for each portfolio are calculated from past 36 months according to the formula mentioned in equation1. These portfolio betas are then assigned to each stock in a portfolio.

Moreover flight to liquidity risk is measured with in Fama and French frame work after taking in to account firm size and momentum. Book to market ratio has been excluded from the study because monthly data of book to market ratio of non financial firms is not available. The econometric equation to measure the flight to risk with in Fama and French frame work is given below

$$E\,(r_t^i - r_t^f) = \alpha_t + +\lambda_1\beta_t^{1i} + \varphi_2 SIZE_t + \varphi_3 MOM_t \quad \text{..... (3)}$$

$r_t^i$ = Expected return of security i during monthly time period t

$r_t^f$ = Risk free rate of security i during time period of month t

$\beta_t^{1i}$ = flight to liquidity risk of security i during a month t

$SIZE_t$= firm size of security i during a month t

$MOM_t$= momentum of security i at monthly time t.

**Panel Regression**

Panel regression with fixed effect has been applied after Hausman test to examine the flight to liquidity specification derived in equation 3. Panel regression suggested by Petersen (2009) has been employed instead of Fama Macbeth (1973) in the study to avoid statistical biases.

**Results and Discussion**

The general behavior of monthly data of illiquidity proxies and returns of non financial firms has been analyzed through descriptive statistics in table 1.

During 2005-2015 A big deviation has been seen in monthly returns of Pakistan stock exchange. Average return during the sample period is 0.25% and maximum return is 38% indicating Pakistan stock exchange is a volatile market. Similarly a huge gap has been observed between maximum and minimum values of all the liquidity proxies including Amihud Ratio, zero return, Roll estimator and Amivest liquidity (0.00-10.69, 0.03-0.92, 0.00-0.96, and 0.00-3.35) showing financial market of Pakistan is less liquid. Data of monthly illiquidity proxies are positively skewed and distribution is leptokurtic predicting traces of extreme values exist around the mean.

Table 1. Summary Statistics of Illiquidity Proxies and Equity Returns

| Variables | Amihud Measure (AM) | Zero Return (ZR) | Roll Estimator (RE) | Amivest Liquidity (AL) | Stock Returns (Ri) |
|---|---|---|---|---|---|
| Mean | 1.47 | 0.04 | 0.98 | 0.29 | 0.002 |
| Median | 0.11 | 0.01 | 0.82 | 0.27 | 0.006 |
| Maximum | 10.69 | 0.96 | 3.35 | 0.92 | 0.385 |
| Minimum | 0.00 | 0.00 | 0.00 | 0.03 | -0.448 |
| Std. Dev. | 9.61 | 0.14 | 0.64 | 0.13 | 0.102 |
| Skewness | 9.42 | 5.27 | 1.57 | 1.03 | -0.509 |
| Kurtosis | 11.36 | 10.50 | 5.68 | 5.93 | 6.933 |

Table 2 shows the correlation among all the illiquidity proxies. Amihud measure is negatively correlated with Amivest liquidity and zero return.. Zero return has positive association with Roll estimator. High transaction cost leads to increase the chance of zero returns. As investors are reluctant to invest when transaction cost is high. The correlation among all the illiquidity measures is within tolerable limits. Therefore illiquidity measures have no correlation among them.

Table 2 Correlation Matrix

| Variables | Amihud Measure (AM) | Amivest Liquidity (AL) | Zero Return (ZR) | Roll Estimator (RE) |
|---|---|---|---|---|
| Amihud Measure (AM) | 1 | -0.22 | -0.12 | 0.26 |
| Amivest Liquidity (AL) | -0.22 | 1 | 0.23 | -0.30 |
| Zero Return (ZR) | -0.12 | 0.23 | 1 | 0.05 |
| Roll Estimator (RE) | 0.26 | -0.30 | 0.05 | 1 |

Innovations in illiquidity measures are the time series plots of residuals of illiquidity measures of stocks. The innovations of Amihud ratio, zero return, Roll estimator and Amivest liquidity are given below.

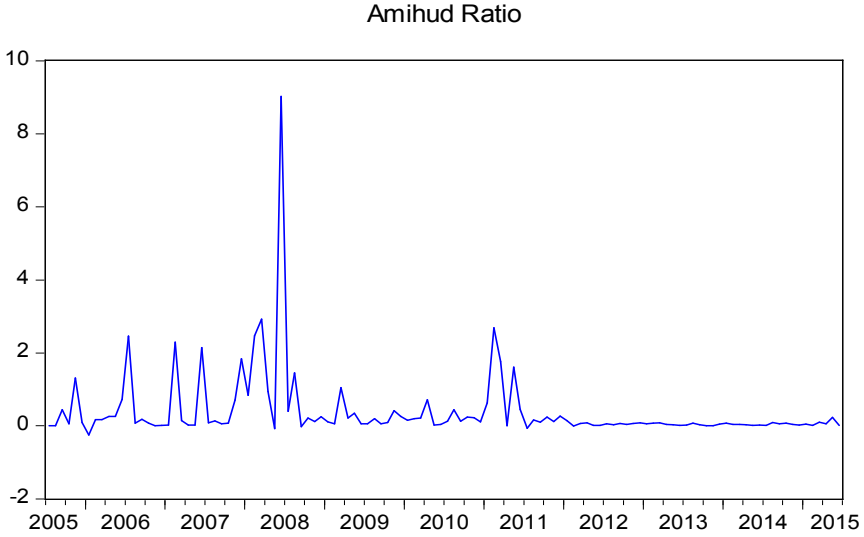


*Figure 1 Innovations in Amihud Ratio*

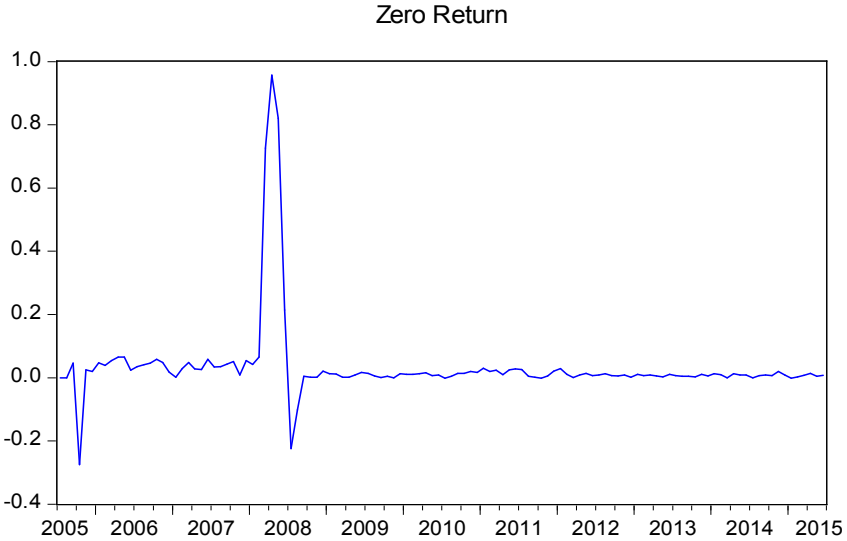


*Figure 2 Innovations in Zero Return*

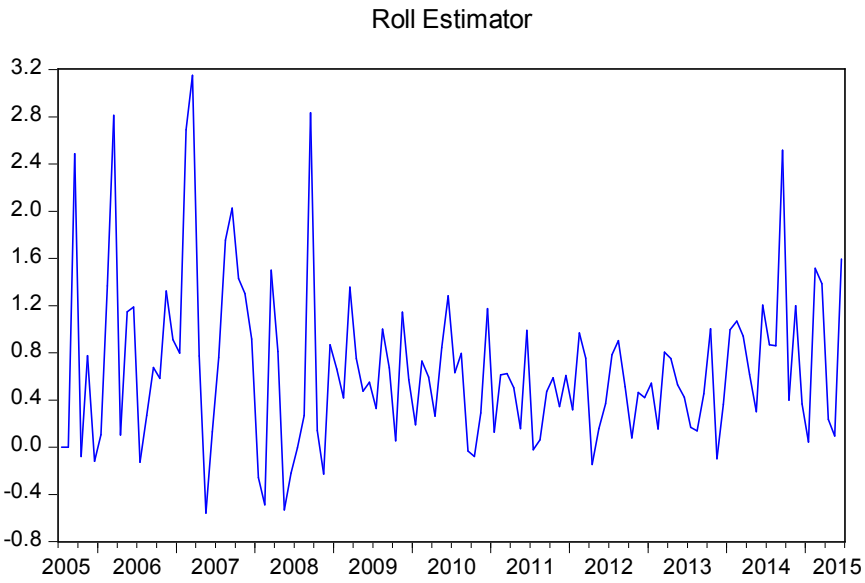


*Figure 3 Innovations in Roll Estimator*

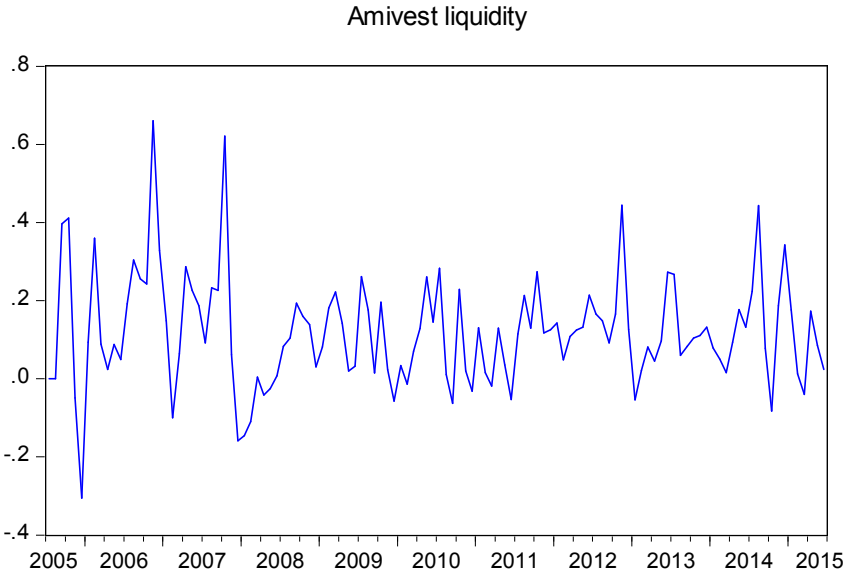


*Figure 4 Innovations in Amivest Liquidity*

Market liquidity is the aggregate sum of innovations of each illiquidity measures of all the non financial stocks listed in Pakistan stock exchange during the monthly time frame covering the period of ten years staring from July 2005 and ends at June 2015. Hump is obvious in 2007 and 2008 due to global crises and floor rule. The floor rule has excluded Pakistan stock market from emerging market index and also results in shut down of stock market. It is observed that conditions of market liquidity have been improved during later years. Now Pakistan[‡] has been declared a successful hidden frontier market having raise in growth rate of 16% during last 12 months of 2015.

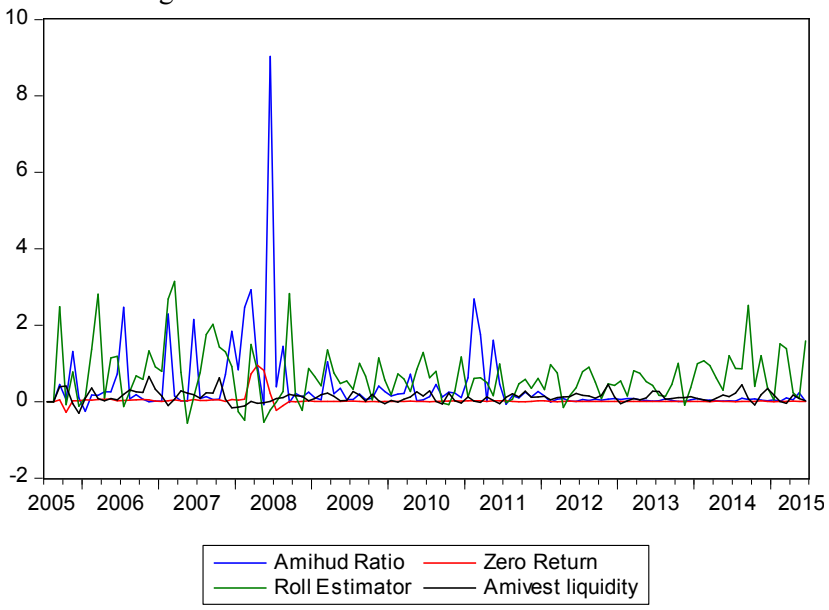


*Figure 5 Market Liquidity*

In line with Lee (2011), Kim and Lee (2014) and Vu et al (2016) the current study has made portfolios on the basis of each illiquidity measure.. Stocks are sorted on the basis of each illiquidity measure. Now stocks are ranked according to the level of illiquidity for the preparation of portfolios. The current study has ten portfolios and one portfolio is comprised of 26 stocks of non financial firms having same liquidity level in Pakistan stock exchange. Time series flight to risk beta (β1 ) is calculated for each portfolio according to the equation1 and results are

[‡] Bloomberg date June 30, 2015. Link http://www.bloomberg.com/news/-articles/2015-06-30/in-best-hidden-frontier-market-boom-signals-pakistan-revival.

reported in table 3. There is no magnificent increasing or decreasing trend has been observed in flight to liquidity beta. Each illiquidity measure except Amivest liquidity show negative sign demonstrating flight to liquidity theory proposed by Pastor and Stambaugh (2003) exist in Pakistan stock market. The above findings are in consistent with Kim and Lee (2014) and Vu et al (2016).

Table 3. Portfolio Betas

| Liquidity Indicators | Panel A (Amihud Ratio) | Panel B (Zero Return) | Panel C (Roll Estimator) | Panel D (Amivest Liquidity) |
|---|---|---|---|---|
| Portfolio | $\beta_1$ | | | |
| (Lowest ) 1 | -0.0171 | -0.0557 | -0.0313 | 0.1801 |
| 2 | -0.0155 | -0.0115 | 0.0047 | 0.1977 |
| 3 | -0.0267 | -0.0309 | -0.0223 | 0.1587 |
| 4 | -0.0301 | -0.0136 | 0.0120 | 0.1820 |
| 5 | -0.0193 | -0.0340 | 0.0134 | 0.1582 |
| 6 | -0.0304 | -0.0461 | -0.0030 | 0.3621 |
| 7 | -0.0298 | -0.0353 | -0.0121 | 0.2089 |
| 8 | -0.0220 | -0.0519 | -0.0168 | 0.0471 |
| 9 | -0.0213 | -0.0196 | -0.0001 | 0.2377 |
| (Highest)10 | -0.0274 | -0.0373 | 0.0060 | 0.2419 |

Panel regression with fixed effect has been employed in order to examine the flight to liquidity theory in Pakistan stock exchange. Flight to liquidity risk in the context of Amihud ratio and Zero return is significant at 5% and 1% significant level supporting the null hypothesis that flight to liquidity risk is negatively priced in emerging market of Pakistan stock exchange during 2005-2015.

As far as Roll estimator is considered flight to liquidity risk is statistically significant at 5% with opposite sign contrasting with the flight to liquidity theory. Investors are not willing to pay premium for such stocks that remain liquid in illiquidity conditions. Amivest liquidity shows insignificant coefficient of flight to liquidity risk. The results of the study are sensitive to liquidity measures used in it.

Fang ,Sun and Wang (2006) argue that LCAPM theory has been originated from developed market. The characteristics of developed market are entirely different from emerging market. Investors return should be negative when they pay premium for stocks that remain liquid in illiquid conditions of market but in emerging market the scenario is different. Contemporaneous return exists in case of unexpected market illiquidity. The unexpected illiquidity leads to generate expected illiquidity that yield high return. In the mean while when the demand for

liquid stocks is going to increase that results in mitigating the prices of stocks to decline. Hongxing and Duduchoge (2017) also find positive effect of flight to liquidity beta in Ghana stock market.

Firm size is statistically positive significant and shows no firm size anomaly exists in Pakistan stock market. Statistically negative coefficients of momentum at 1% and 10% significance level indicate that momentum effect is more pronounced in Pakistan stock market.

Table 4 Panel Regression Results of Illiquidity measures

| Variable | Panel A (Amihud Ratio) | Panel B (Zero Return) | Panel C (Roll Estimator) | Panel D (Amivest Liq) |
|---|---|---|---|---|
| Constant | -0.996 | -0.557 | -1.314 | -0.084 |
| | (-3.46) | (-2.17) | -5.42 | -0.70 |
| $\beta_1$ | -0.101** | -0.522*** | 0.101** | 0.055 |
| | (-2.44) | (-3.65) | 2.09 | (1.22) |
| Firm Size | 0.042*** | 0.024** | 0.057*** | 0.004 |
| | (3.48) | (2.27) | 5.64 | (0.43) |
| Momentum | -0.036*** | -0.019* | -0.020* | 0.056*** |
| | (-3.22) | (-1.74) | -1.87 | (5.12) |
| F-statistics | 4.11 | 2.85 | 8.56 | 6.36 |

**indicate 10% level of significance, ** indicate 5% level of significance and *** indicate 1% level of significance*

**Analysis and Conclusion**

The aim of this deductive study is to analyze the flight to liquidity risk, one of the channels of liquidity risks in liquidity adjusted capital asset pricing model. According to Pastor and Stambaugh (2003) flight to liquidity risk is negatively related to excess returns in developed market because investors accept low returns for those stocks that are liquid in illiquid conditions of financial market. Keeping in mind the multiple features of liquidity, different liquidity measures are used.

The results of the study conclude that flight to liquidity risk is priced in Pakistan stock exchange during time frame 2005-2015 but it is sensitive to liquidity measures as well. Flight to liquidity risk in the context of Amihud ratio and Zero return is negatively priced in Pakistan stock exchange and support the results of Vu et al (2016), Kim and Lee (2014) and Goyenko and Sarkissian (2010) . The findings of the study support that price impact illiquidity exist and Pakistan stock market has less depth to absorb the changes in price movements. The positive significant coefficient in the perspective of Roll estimator shows contradicts result with Pastor and Stambaugh (2003). Bakaert et al (2007) argued that emerging markets have characteristics of more asymmetric information, less transparent information and non diversified

ownership structure. Moreover access of investors to get market trading information quickly is also negligible. These invisible risks increase systematic risks in emerging financial market that yield high return. Hirvonen (2016) also show flight to liquidity risk is positively priced in Finnish stock market.

As far as Amivest liquidity risk is considered, the flight to liquidity beta is insignificant at all significance levels indicating Amivest liquidity contributes no role in pricing of flight to liquidity risk in Pakistan stock exchange. Nguyen and Lo (2013), Lee (2011) and Hongzing and Duduchoge (2017) also found weak evidence of pricing of flight to liquidity risk in financial markets.

The findings of the study shows more significant coefficients as compared to insignificant coefficients supporting flight to liquidity risk is priced in emerging market of Pakistan stock exchange. Therefore investors should consider the flight to liquidity risk especially in designing portfolios because it is a common observation that investors demand liquidity from their investment. Similarly regulators should consider flight to liquidity risk while designing regulation policies as liquidity is considered an important element in proper functionality of financial market in short run as well as in long run.

Saad and Samet (2015) investigated that macro economic factors have a great contribution for generating illiquidity risk. The future research can be conducted to know the relationship between flight to liquidity risk and macro economic factors. Moreover flight to liquidity risk can be measured by using common component of illiquidity measures.

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