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ASSESSING THE IMPACT OF LIQUIDITY ON THE VALUE OF ASSETS RETURN

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ABSTRACT

The concept of liquidity has been widely discussed in the literature of financial management to determine its influence on the different aspects of company's financial performance. In a firm, there is a deficit and surplus in liquidity related to stock and it needs to be monitored to control the equity of a company. Deficit liquidity arises from a shortage in stocks and this can cause the profitability to below and this can cause a cashflow concern for the company. Hence, it is critical to evaluate the impact of liquidity on the returns and value of the study. Therefore, the following research is mainly conducted to investigate the effect of liquidity on the stock return from the context of two markets which are Pakistan and the United Kingdom. The data is gathered from total of 60 companies where the 30 companies belong to Pakistan whereas the remaining 30 companies are from UK. The time frame from which the data is collected is from 2005 till 2019 which makes a total time period of 15 years. With respect to the results of regression of the Pakistani data, it was determined that the illiquidity has significant and negative influence on the stock return whereas interest rate and HML has significant and positive influence on stock return. It is clear that the investors are highly concerned with the liquidity of the Pakistani companies as the increase of liquidity would cause reducing the stock return. While reflecting to the results of regression on UK data, it was identified that illiquidity has insignificant influence whereas the book to market, SMB, HML, IR and LNGDP has significant influence. Book to market and interest rate has negative influence on stock return whereas SMB, HML, interest rate and GDP have positive effect on stock return. Furthermore, recommendation and limitations are also highlighted in the study.

Keywords: Liquidity, Stock Return, Pakistan Stock Exchange, London Stock Exchange

INTRODUCTION

Liquidity is commonly recognized as a complex concept as it has wide-ranging influences on the stock market particularly stock value or return. The implications of liquidity on stock returns and assets pricing have been widely discussed in the existing literature. As per the empirical and theoretical evidence, liquidity can explain the cross-section of assets with different liquidity, after directing the other characteristics of assets like risk, and the association among securities returns and liquidity (Leirvik, Fiskerstrand & Fjellvikås, 2017). There has been a significant movement in the asset management sector from active to passive investing techniques during the past two decades. Active techniques allow portfolio managers to choose specific assets with the purpose of beating a previously determined benchmark. Passive techniques, like as indexing, employ rules-based investing to mimic an index by owning all of its component assets or a randomly selected representative sample of those assets (Kenechukwu Anadu, CFA., mathias Knutte, Patrick McCabe & Emillo Osambella, 2021).The financial measure of liquidity also helps in explaining why particular hard to hard securities are considerably cheap, return on hedge funds, pricing corporate bonds and stocks, and closed-end funds valuation. Moreover, liquidity can help in answering different questions like why liquid risk-free treasuries have low required returns, why equities imposing high required returns, and why small illiquid stocks attain high returns (Loukil, Zayani & Omri, 2010). However, in previous literature, the concept of liquidity is considered as indefinable, as it has different aspects and cannot be directly observed. As per the general perception, liquidity indicates the influence of order flow on prices, which can be detected as the premium that buyer pays or the discounts that a seller accepts while executing a market order, which is caused from the adverse inventory costs and selection costs. Liquidity is essential to the effective operation of all organisations, but particularly financial institutions. Liquidity has been regarded as one of the most important objectives of working capital management and as a fundamental pillar of cash management. Existence and expansion of a business are primarily based on the effectiveness of its liquidity management (C.R. Sathyamoorthi1 , Mogotsinyana Mapharing & Mashoko Dzimiri, 2020).

The survival of any company in the market is considered to be highly dependent on its liquidity, as the company's failure to meet its short-term obligations in a given time can cause bad credit ratings from the creditors. This can eventually lead towards reducing the company's goodwill in the market, thus causing liquidation. Therefore, firm and good policies of financial management pursue to retain the sufficient liquidity level to meet its short-term obligations without damaging its profitability (Sathyamoorthi, Mapharing & Dzimiri, 2020; Hussain 2020). The significance of effective liquidity management for the company's financial performance has been well acknowledged in the previous literature (Hiadlovský, Rybovičová & Vinczeová, 2016; Ismail, 2016). However, there is still found to be a lack of clarity on the association between liquidity and stock returns. As per the common perception, the less liquid asset can provide a higher expected return, thus it depicts the positive association between expected returns and illiquidity. Therefore, the key rationale of this study is to bring more clarity to the association between liquidity and stock return. Apart from that, most of the previous studies in which the association between liquidity and stock returns have been examined were panel-based, thus the validity of research outcomes cannot be generalised for the countries. Hence, this study aims to make a valuable contribution to the existing literature by carrying out research investigation on London and Pakistan Stock Exchange Market. The main objective of this study is to assess the impact of liquidity on the value of Returns on Assets. For fulfilling this aim, two sub-objectives have been developed as follows

- To understand the significance and determine the factors affecting the returns of assets
- To analyse the impact of liquidity level on asset pricing in PSX.

According to Ayub (2020), the need for efficient management in the liquidity of stock needs to be focused while firms only focus on profit maximization and this has caused companies to lose focus on how to utilize the shareholder's wealth. Moreover, there is a conflicting approach that liquidity and stock returns are two different determinants to identify the goal of an organization. Chodorow-Reich (2020) has stated that there is a difference between profitability and return on stocks and liquidity has an impact on valuable stock returns and can affect the profitability of the company. In a firm, there is a deficit and surplus in liquidity related to stock and it needs to be monitored to control the equity of a company. Deficit liquidity arises from a shortage in stocks and this can cause the profitability to below and this can cause a cashflow concern for the company. This often leads to bankruptcy and affects the returns of a firm (Seth, et al, 2020). Hence, certain measures determine and evaluate the impact of liquidity on returns and value of shares. Furthermore, this study will identify the certain measures that are related to the profitability of a firm and help assess the liquidity crisis that led to inefficient profitability of a company. As per the study of Di Domenico (2017), it was identified that companies ignore the principle of increasing shareholder. Therefore, there has been less research in past and this study would aim to improve future studies and identify factors related to the utilization of stocks. Many companies and researchers try to evaluate the reasons behind profitability and liquidity and how it impacts the return on stocks. However, due to less research, this study will help to evaluate the impact of liquidity and liquidity risk and how it can be used by the management to be efficient and help to easily convert stock into cash. Furthermore, liquidity and its impact on equity are the two main sources used to identify the efficiency of a firm and they can generate returns in the future.

LITERATURE REVIEW

The concept of liquidity has been widely discussed in the literature of financial management to determine its influence on the different aspects of company's financial performance. According to Jiang and Wang (2017), the concept of liquidity commonly referred to the firm's ability to meet its short-term obligations, thus it plays a crucial role in its effective functioning as a profitable organisation. In this regard, the indicators of profitability and liquidity hold huge importance to both potential investors and shareholders. On the other hand, the study conducted by Demirgüneş (2016), argues that liquidity is a complicated concept that can be explained by multiple factors. The same study explains liquidity as the extent to which a company can easily generate cash from its assets. These cash can either be generated through the sales of owner's assets or by using creditworthiness to attain external finances. As per the study of Bongaerts, De Jong and Driessen (2017), liquidity is the stock's capacity that are trade without high press spread an in a lesser time. The three main aspects of liquidity that are discussed in the previous literature includes the cost of tightness, resiliency and depth. In this regard, the first aspect of cost calculated by bid-ask spread, and measures the over cost made by an intolerant investors. On the other hand, the second aspect measures the required delays for prices returns to their evenness position after to be diverged by a liquidity shock. Lastly, the third aspect measures the probability of captivation of a large size order.

In accordance with the study of Tibor and Veronika (2011), the excessive amount of investment in liquidity can force the managers to make investments in maximising their own utility, thus it eventually makes the negative impact on company's profitability. Apart from that, another major disadvantage for the company is linked with the tendency of the manager to invest in projects with the negative net present values. As per the widely accepted view, illiquidity enforces some costs to the investors, thus liquidity makes a significant impact on returns. Therefore, as liquidity influences the level of returns, then the risk of liquidity needs to be priced from investor's perspective (Marozva, 2019). The same study considers liquidity as an important aspect that explains the cross sectional variations in the stock returns.

Capital Asset Pricing Model

The asset pricing theory holds huge importance in the context of finance application and theory. According to Rossi (2016), any cash flow, liability and asset have their value, however, the main problem that companies faced is how to price them. The company's assets including both non-financial and financial are viewed as causing high risk to the future payoffs distributed over time. In this regard, the asset pricing can be considered as the current value of the cash flows and payoffs discounted for time lags and risk (Yang, Ye and Zhang, 2018). Following the same study, the major issues are arises from the process of discounting while determining the most important factors that can influence the payoffs. Therefore, monitoring different indicators and signals in the market and determining their impact on the payoffs is considered as the major task of asset pricing that needs to be implemented in the strategic implications. As per the study of He and Krishnamurthy (2018) generally, the concept of asset pricing also applies to other forms of assets like derivatives and bonds, and non-financial assets like real estate and gold. The frameworks of asset pricing share the normative versus positive pressure that is presented in the overall economics.

The models of asset pricing like arbitrage pricing theory and CAPM proposes that are assets are linked through their associations to the common factors, or market portfolios. Therefore, if existing factors of pricing fails to hold the excess within the industry co-movements, then extra factors can be required, and the industry related co-movements needs to signify non negligible amount of changes in stock returns (Chou, Ho & Ko, 2012). The study conducted by Kargar, Passadore and Silva (2020), explains asset pricing as the study of a company priced its different financial assets, which can be in different forms like equities, debt, derivative and hybrids. As per the same study, the main purpose of asset pricing is to identify the values or prices of claims risky payments. This is considered to be a complex task for companies as the risk and the timing of ambiguous payments are requires to be taken into consideration instantaneously. In this context, low prices also reflect the high rate of return, thus asset pricing can be considered as an important determinant that explains why some assets show high returns in comparison with other (Albuquerque et al., 2016).

Asset Return

Asset returns are widely considered as an important indicator of a company's profitability comparative to its total assets (Bekaert and Engstrom, 2017; Hussain, 2022). Asset returns of the company offer analyst, investor or manager a clear idea about how effectively the company is utilising its assets to generate earnings. Following the study of Bigio and Schneider (2017), the cash flow projections are commonly used to calculate the value of the assets at closing. In this regard, the difference between this value and the total asset value helps in determining the value of rental properties. The cash flow projections are carried out on the basis of the assumptions that demand will always remain the same, whereas the supply is always limited. Therefore, it is vital to recognise that there is balance between these two aspects, as it enables the companies to maintain constant level of supply and increases its profitability. The empirical evidence postulates that investors demand higher return on assets with low market liquidity in order to recompense them for higher trading cost of these assets. Therefore, for the assets with a provided cash flow and having high market liquidity is likely to have higher prices and low expected return (Altay & Çalgıcı, 2019).

Factors affecting returns of assets

The existing literature of financial management suggests that some different factors or variables are important for explaining the variations in stock returns. As per the study of Saeed and Hassan (2018), due to financial deregulation, the stock markets have become more open towards external and domestic factors. The same study also argues that the association between economic variables and stocks return have gained huge prominence over the years in certain economic and countries situations. In this context, the level of returns expected or attained from the investment is highly dependent on several

factors. This can include internal factors like the type of financing and quality of management, whereas external factors may include inflation, GDP, interest rates. Some of the common factors that can affect the asset returns of the stock market exchange are discussed below:

Illiquidity

According to Okanga (2014), contrary to liquidity, the variable of illiquidity occurs when assets or security that cannot quickly and easily be exchanged or sold for cash without a sufficient loss of in the value. This variable portrays the influence of order flow on price, and the premium that a buyer pays and the discount that sellers accept while completing a market order, which results from the negative adverse inventory costs and selection costs. Following the theory of liquid asset pricing, a decline in liquidity is likely to cause reduce stock prices, thus making a significant impact on asset returns (Amihud, 2018). Moreover, expected returns are considered as the major function of illiquidity cost. Similarly, the study conducted by Ernawati and Herlambang (2020), identifies that illiquidity can have wide-ranging effects on financial markets, as it explains why specific securities are considerably cheap, the returns on portfolios, and stock pricing.

Book-to-Market Value

The book-to-market value is considered as another important factor that can make a significant impact on stock returns. According to Ltaifa and Khoufi (2016), the book-to-market ratio determine the overvalued or undervalued securities by dividing book value by the market value. The same study also found that book to market value is an important determinant that indicates the changes in the expected return of stocks. Similarly, the study carried out by Farooq and Muddassir (2015), identifies the positive association between book to market value and stock returns, as stocks with a high value of the book to market value tend to earn more as compared to the stocks with low value. Moreover, it has been argued that companies with high book to market value are more capable in attracting investors, as they believe that the company is performing well in the market. Therefore, the increase in investment also increases the company's market value and stock returns.

Market Capitalization

According to Marozva (2019), market capitalization is commonly viewed as a market cap, which refers to the market value of the outstanding shares of a public traded company. Market capitalisation is calculated by multiplying outstanding shares of the company by the current market price of the share. The measure of market capitalisation is widely recognised as an important indicator for investors for determining the returns on their investment. As mentioned in the study of Chessar (2015), market capitalisation is a common metric that is used for examining the health public trade company, and assess the overall value of a business. The same study also identifies the significant impact of market capitalisation on stock returns.

Small Minus Big (SMB)

Small minus big (SMB) is one of the main components of the Fama/French pricing model, according to which smaller firms outperform big organisations over the long-term (Zaremba, 2020). As per the same study, the factor of SMB signifies the risk factor for size and it tends to be different for each month for the average returns of a large group and the average returns of a small group. On the other hand, the study conducted by Adalat (2016), argues that the variable of SMB contains no information related to default risk but it tends to have other important information. Apart from that, the variable of SMB is recognised as significant for explaining the stock returns.

High Minus Low (HML)

High minus low is another important variable of the Fama-French model. According to Yu et al. (2020), HML refers to a value premium, and it signifies the return's spread among the firms with high book-to-market value and firms with a low book to market value. Similarly, as per the study of Qasim (2018), HML measures the value premium offered to investors for making investments in the companies with having high values of the book to market ratio. The finding of the same study identifies HML as an important factor that increases the asset returns of the company.

Interest Rate

The variable of interest rate is commonly considered as one of the most important economic and financial factors that can affect the value of common stocks (Muktadir-Al-Mukit, 2013). The financial theory postulates that interest rate is an important macro-economic factor that must systematically influence the stock market returns. According to Al-Abdallah and Aljarayesh (2017), the low-interest rate tends to increase the flow of capital in the stock market in anticipation for higher return, whereas high-interest rate encourages the investors to make more savings in banks, which eventually declines the capital flow in the stock markets. The findings of the same study have revealed that stock returns are highly sensitive to the changes in interest rates.

Gross Domestic Product

Gross Domestic Product (GDP) is widely recognised as the most important macroeconomic factor that can make a significant impact on stock market performance. According to Linck and Frota Decourt (2016), the increase in money supply and GDP ultimately increases the stock market index, thus it makes a significant impact on stock returns. Furthermore, as per the commonly accepted view, the macroeconomic condition of the country makes a significant impact on company's financial results because their margins and sales are highly associated with the GDP growth of the country. Therefore, GDP can make a significant impact on asset returns.

Impact of Liquidity on the stocks and value of Assets Return

The liquidity has been affecting the on the stock or asset prices and stock return dynamically based on economic conditions and market conditions. where this can be addressed through different reforms related to the fundamental recognition of the market, distinct intervenient and their operative component also. On the other side, in this, the liquidity is the capacity of stocks trades deprived of spread in greater price and in a short time. Conversely, the previous studies examined three factors of liquidity resiliency, depth and cost of tightness (Loukil, Zayani and Omri, 2010). The initial cost is measured mainly by the spread of bid-ask and predict over cost bore by an irritated stakeholder. The other element is to project the probability of absorption of an order that is large-sized and last is the important delay for that particular prices that return to their state of equilibrium to be diverged by the shock of liquidity (OMRI, n.d).

In light of a study conducted by Nimer et al. (2015), it has been depicted that the market liquidity of assets impacts their anticipated returns and prices. That is, for an asset with the provided cash flow, the greater its liquidity of market the greater its price whereas the greater its anticipated return. In this, the ROA is most important which a kind of return on investment is and it is most normally examined as a division of net income to the actual capital cost related to investment. The greater the ratio the higher the earned advantages and metric that processes the business profitability about its entire assets (Manyo and Ogakwu, 2013; shehzad etal., 2020). This can further be criticized with the example of the probable trade-off between profitability and liquidity. In the setting of the stock market, the more liquid shares would denote the less investment that exit the risk for the stakeholders. Thus, they should be identified as more lucrative assets, relishing a greater price and less predicted return and less market risk (Khidmat

and Rehman, 2014). The usage of the venture capital subsidy for the raises of capital stems from various reason. Whereas, the most significant of these is the fact that particular companies have a greater probability of risk which might be severe. Normally, the funds related to venture capital are designed in a certain way as to decrease the risk linked with the usage of certain funds. Additionally, the decreased amount of risk linked with the usage of venture capital funds and these funds also inclined to have comparatively greater ROI (Ehiedu, 2014). Thus it can be claimed that there is a meaningful and significant influence of the liquidity on the value of the Assets Return. Conversely, the most important factor that defines the value of business that is bought under the credit agreement that directs to the value of credit agreement.

The reason for this is because the credit rating of the company is one element that will define the final price of the business the entire value of the debt carries by the business. Nonetheless, certain determinants impacting the returns of assets that might be deliberated in the direction to create a well-proportioned portfolio (Ismail, 2016). The age is also considered as important. After all, it influences the returns of assists when the asset is not as much mature because it is in the starting phase. Hence, it is significant for the stakeholders because the age of assets entirely relies on the existing state of the market value. The most common type of asset in the portfolios of investment is that which is mainly denoted to as fixed income. Thus, in certain portfolios, the stakeholder is not concerned with business and is capable to take various risks related to the investment (Waleed, Pasha and Akhtar, 2016). The factors like the current economic and market conditions and investors' perception are could influence the value of the assets in the market in comparison to other assets (Hung et al., 2020).

As a general rule, the value of the asset also decreases as the asset's age. Thus, it is important for investors to look at the condition of the asset and calculate its present value. A good illustration of this is real estate assets, where properties in the early years tend to depreciate more rapidly than properties that are more recently acquired. Assets' condition can affect its current state. If the asset is suffering from wear and tear, it may depreciate more quickly than assets that are not suffering from wear and tear. A well-maintained asset can appreciate for a period of time, while a poorly maintained asset will depreciate rapidly. Therefore, it is important for investors to maintain good maintenance of assets. It is also important to consider the duration that the asset was owned. An older asset is valued based on its current value at the present moment. In the case of real estate assets, these assets tend to depreciate more rapidly as they are in their early years. Since they are priced based on current market values, depreciation during the early years of an asset is greater than it would be if it were in its early years.

Another factor that influences the current value of an asset is its location in the portfolio. The value is also affected by the current condition of the location and the condition of the asset in comparison to other assets. If the asset is located in an area that has a poor economic outlook, its value will depreciate more quickly (Haroon and Rizvi, 2020; Hussain, 2021). The age of the asset and its location depend on factors that can influence its current condition and its future. Factors that affect the current condition of an asset include the current market values of the asset and the condition of its location in the portfolio. Factors that affect the future condition of an asset include the current market value of the asset and its condition in comparison to other assets. Asset classes can also differ depending on whether they are part of investment portfolios (Yameen and Pervez, 2016). A common type of asset in investment portfolios is that which is commonly referred to as fixed income. In such portfolios, the investor is not concerned with changing the interest rates and will not be adversely affected by interest rate movements. Another variation of asset class is that of the variable risk. In this category, the investor has the potential to take a number of risks and still benefit in the end from the returns of their investments. This type of portfolio includes those who invest in financial instruments like stocks, bonds, and mutual funds. An investor is also able to select from different categories of assets in which they may invest in. There are several asset categories in which an investor may select (Haroon and Rizvi, 2020).

Research Framework

There are other studies as well in which different models are tested in order to develop the relationship between different factors that affect the performance of stock prices. For instance, it is stated through a study that liquidity risk is considered as priced factor which is mainly raised due to the reason of co-variation from liquidity on individual basis with level of liquidity and local market liquidity. At the same time Balvers, Hu and Huang (2012), illustrate by their study on Finnish stock exchange that in the light of zero-returns illiquidity, there is a substantial risk premium which is directly related to risk of illiquidity in Finnish Markets.

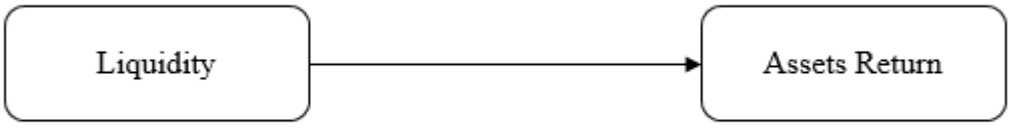

Figure 1. *Conceptual Framework*

Figure 1 reflects on the conceptual framework where the effects of liquidity is evaluated on the assets return of the stock market exchange where there are particularly two markets that are selected which comprises of London and Pakistan Stock Exchange. On the basis of the above figure, liquidity is referred to as the independent variables whereas assets return is shown as the dependent variable.

METHODOLOGY

Research philosophy

The research design which is applicable in this study is the quantitative design of research. This is because the quantitative design is primarily concerned with researching in an objective manner where mathematical and statistical modelling and techniques are applied for developing findings that allow accomplishing research objectives. The quantitative design also excludes human interaction as it is not emphasised on comprehending human behaviour (Taherdoost, 2016). In this perspective, the quantitative design is implemented in the research as statistical analysis could be carried out on numeric data assessing the impact of liquidity on asset prices of firms in London Stock Exchange and Pakistani Stock Exchange.

Data collection

There are specifically two approaches for the collection of reliable data. These approaches are classified as primary and secondary data collection. The primary data is recognised as collecting first-hand data by recruiting research participants. On the other hand, secondary data is referred to as data which is already published and issued in various data banks (Basias & Pollalis, 2018). This is also called readily available data. These sources which comprise secondary includes journals, annual reports of the firm, Central Bank reports, Data Banks, and research articles. This data is considered as reliable and authentic as it is peer-reviewed, audited and checked for error before its publication (Dźwigoł & Dźwigoł-Barosz, 2018). Therefore, as this research involves an analysis of association amid liquidity and asset pricing

of companies, the data is extracted from Yahoo Finance, Investing, PSX, LSE, and Annual reports of the companies.

Variables

Dependent variable

Stock Returns

Stock Returns are the returns that the financiers make by investing in the company's stock. This return is in the form of profit through trading, as the difference between the purchase price of stock and closing price of the stock at the time of selling, or it is also the dividends announced by firms to its shareholders. This is measured by assessing the daily closing prices of the company's stock or dividend per share.

Independent variable

Illiquidity

Illiquidity measured through zero-return. Illiquidity or zero return is the state that investors have not made any profit from trading nor any loss from the trading.

Book-to-Market Value

The book-to-market value ratio classifies overvalued or undervalued securities by dividing book value by the market value.

Market Capitalization

Market capitalization raises to the aggregate dollar market value of an organisation's outstanding shares of stock. Measured by multiplying the current market price of a stock with total outstanding shares.

Small Minus Big (SMB)

Small minus big (SMB) is referred to as determinant in the Fama/French pricing of shares model that argues smaller businesses outdo larger ones over the long-term.

High Minus Low (HML)

High minus low (HML) is the determinant in Fama/French the model that articulates value stocks incline to outdo growth stocks.

Control variable

Interest Rate

Interest rate is the rate as the cost of capital charged by commercial banks against lending amount. It is set by Central Bank in periodic monetary policy. It is collected from the World Bank or Bank of England

Gross Domestic Product

GDP is the aggregate market or monetary value of all finished products and services manufactured within a country in a particular period. It is also collected from the World Bank or Bank of England.

The period for which the data is collected is 15 years from 2005 to 2019. The data is primarily assorted for 30 firms registered in Pakistan Stock Exchange and London Stock Exchange. Thus, the total sample size is taken equal to 60 firms from the manufacturing industry. The software applied to analyse data is E-views. The statistical techniques are applied which includes Augmented Dickey-Fuller (ADF) test, Descriptive Statistics, correlation and regression. The ADF test will assists in determining the unit root in data whereas, descriptive tests are applied for classification and summarizing raw data into understandable information (Taherdoost, 2016). The correlation is applied for assessing the relationship between variables and regression is applied for assessing, nature and impact of independent variables on stock returns.

Statistical model

The statistical model that is applied for assessing the liquidity is through the zero returns (ZR) that are calculated through the number of daily zeroes divided by the aggregate number of transactions days on yearly basis where it is considered to be 250 days. The formula for computing the zero returns is below:

$$ZR = \frac{ZR}{D}$$

It is used as independent variable that signifies the stock's illiquidity in the market and is utilized to identify how this impacts the stock's return in the market with other primary variables to enhance the model estimation. Furthermore, the regression technique is carried out for assessing impact of liquidity on asset pricing. The regression formula for computing the relationship is highlighted below:

$$\mathrm{AR} = \alpha + \beta_{\mathrm{illiq}} + \beta_{\mathrm{B/M}} + \beta_{\mathrm{MCAP}} + \beta_{\mathrm{SMB}} + \beta_{\mathrm{HML}} + \beta_{\mathrm{Interest}} + \beta_{\mathrm{GDP}} + \epsilon$$

AR highlights the assets return, whereas Illiq is stated to the illiquidity, B/M book to market ratio, MCAP market capitalization and others SMB, HML, interest and GDP.

RESULTS OF THE STUDY

Descriptive Statistics

The descriptive statistics main function is to convert the data into a summarized form where the purpose is to convert the raw data into a summarized form. In this respect, the mean, standard deviation, minimum and maximum value is computed.

Table 1:

Descriptive Statistics of Pakistani Companies

Descriptive Statistics	Stock returns	Illiquidity	Price to book	Book to market	lnMCAP	SMB	HML	IR	LnGDP
Mean	0.243	0.280	2.037	0.964	10.392	(0.233)	(1.813)	2.915	26.071

Standard Deviation	0.717	0.107	2.780	1.129	1.473	6.443	10.822	3.681	0.293
Minimum	(0.873)	0.092	0.060	0.026	6.053	(7.950)	(17.080)	(5.079)	25.511
Maximum	6.876	0.988	38.060	16.667	13.932	13.850	22.420	8.321	26.474

The descriptive statistics results are provided in table 1 for the data of Pakistani companies where the stock return is computed as 0.243 which shows that the average number of Pakistani companies provided positive stock return. The standard deviation is computed as 0.717 which shows the dispersion of the stock return. The minimum value is 0.873 or -87.3% whereas the maximum stock return is 6.87 or 687%. In respect to illiquidity, the mean value is computed for 0.280 which is below 1 which is closer to 0 which signifies a lower average zero return. The standard deviation is computed as 0.107 which depicts the incline or decline of illiquidity. The minimum value is 0.092 whereas the maximum value of liquidity is 0.988. The other variables descriptive results can be observed in the table.

Preliminary Testing

The preliminary testing is conducted through applying the unit root test and Hausman test for evaluating whether the OLS regression is applicable on the panel data while also determining as what type of OLS regression is applicable in the study. The unit root test is mainly performed through the augmented Dickey Fuller test which determines whether the data is stationary (unit root absent) or non-stationary (unit root present). The null hypothesis of Dickey Fuller test is that the unit root in the data is absent and thus declares that the data falls under the stationary category. The unit root test was conducted on each variable where it was determined that the unit root is not present in the data. On the other hand, the purpose of Hausman test is to mainly determine as which type of OLS regression is applicable with the study such as random effect or fixed effect model. The null hypothesis of Hausman test is that random effect model is applicable whereas the use of fixed effect model is not applicable.

Table 2:

Hausman Test for Pakistan companies

Test Summary	Chi-Sq. Statistic	Chi-Sq.	Prob.
Cross-section random	0.000	8.00	1.00

Table 2 reflects to the Hausman test for the Pakistani companies where the mainly purpose is to evaluate as which type of regression technique is applicable where the probability value is computed as 1.00. The value being above the significance value which is 0.10 indicates that the null hypothesis is accepted whereas the alternative hypothesis is rejected. Hence, this shows that the random effect model among the dataset of Pakistani companies.

Correlation Analysis

The correlation analysis main purpose is to determine the association of the variables with each other. There are several correlation techniques that is available to the researcher where the types of correlation techniques that is available to the researcher comprises of Pearson's, Spearman and Kendall correlation (Batyrshin, 2019). According to Schober, Boer and Schwarte (2018), the simplest and easiest technique for evaluating the correlation is the Pearson's correlation which supports in evaluating the three major components of the variables in terms of its association which comprises of significance, direction and

strength. The significance of the association can be denoted by analyzing the significance value which must meet the criteria of the confidence interval which are 99% (0.01), 95% (0.05) and 90% (0.10). For instance, if the significance value is computed below 0.10 then this refers to the variables having significant association. In terms of directional, the correlation coefficient can consist of a negative '-' symbol where it denotes that the intercorrelation of the variables is negative while on the other hand, the absence of the negative symbol demonstrates a positive association. The strength of the correlation coefficient is identified from its range where it mainly is between 0 – 1. The value closer to 0 signifies that there is no interconnection whereas the value close to 1 determines a strong association.

Table 3

Correlation Analysis of Pakistan Companies

Correlation	Stock Returns
Illiquidity	-0.115 **
Sig.	0.016
Price to Book	0.043
Sig.	0.371
Book to Market	(0.056)
Sig.	0.239
LNMCAP	-0.105 **
Sig.	0.028
SMB	0.088*
Sig.	0.065
HML	0.233***
Sig.	0.000
IR	0.154***
Sig.	0.001
LNGDP	-0.082*
Sig.	0.087
*** Significance at 1%; ** Significance at 5%; * Significance at 10%	

Table 3 reflects to the correlation technique where the association of the stock returns is mainly assessed with the other variables to determine its relationship in respect to the data that is collected from Pakistan. The significance variables that are identified to have association on stock returns of the Pakistani companies are illiquidity, log of market capitalization (LNMCAP), SMB, HML, interest rate and log of GDP (LNGDP) as per the significance value. The main variable of the study illiquidity is found to have weak and negative correlation with the Pakistani company's stock return as the correlation coefficient is computed as -0.115. Furthermore, LNMCAP (B=-0.105) and LNGDP (B=-0.082) are also determined to have negative and weaker association with stock returns. On the other hand, the variables that has positive and weak correlation with stock returns comprises of SMB (B=0.088), HML (B=0.233) and interest rate (-0.082). Hence, it can be demonstrated that the illiquidity of the stocks has weak and negative correlation with the stock return.

Regression Analysis

The regression analysis is conducted where the main focus of the test is to mainly examine the influence of illiquidity, price to book, book to market, market capitalization, SMB, HML, interest rate and LNGDP on the stock return of the Pakistani companies. As per the Hausman test, the random effect model is applied with the dataset for conducting the regression. The components that are mainly examined in the regression are the significance value, coefficient and R-square. The purpose of R-square is to mainly evaluate the prediction or explanation of the model.

Table 4

Regression Analysis on Pakistani companies

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Illiquidity	(0.83) **	0.36	(2.33)	0.02
Price to Book	0.01	0.01	0.46	0.64
Book to Market	(0.03)	0.04	(0.87)	0.38
LNMCAP	(0.04)	0.03	(1.41)	0.16
SMB	0.00	0.01	0.73	0.47
HML	0.01**	0.00	2.61	0.01
IR	0.04 ***	0.01	3.17	0.00
LNGDP	(0.20)	0.15	(1.32)	0.19
C	6.17	3.90	1.58	0.11
R-squared	10.19%			
Durbin-Watson stat	2.22			
Prob(F-statistic)	0.00			

*** Significance at 1%; ** Significance at 5%; * Significance at 10%

Table 4 reflects on the regression analysis where the dependent variable is the stock returns whereas the independent variables are illiquidity, price to book, book to market, market capitalization, SMB, HML, interest rate and LNGDP. The F-statistic value is computed as 0.00 which depicts that the model is significance whereas the R-square value is computed as 10.19%. This shows that the independent variables are able to explain or predict the movement of stock returns by 10.19%. As per the results, it is determined that illiquidity, HML and interest rate is found to have significant effect on stock returns whereas the other variables are determined to have insignificant influence based on the p-values which is lower than 0.10. Illiquidity has a significant and negative influence on stock return as coefficient is computed as -0.83 which shows that the increase of illiquidity or zero return in the stock prices would cause the stock return to decline by 0.83 units. On the other hand, HML and interest rate is determined to have significant and positive influence as the correlation coefficient is computed as 0.01 and 0.04, respective. Hence, on the basis of the regression, it is clear that illiquidity has a negative influence on the stock returns of the Pakistani companies.

Results and Analysis of UK

Descriptive Statistics

Table 5:

Descriptive Statistics on UK Companies

Descriptive Statistics	Stock returns	Illiquidity	Price to book	Book to market	lnMCAP	SMB	HML	IR	LnGDP
Mean	0.100	0.338	3.680	0.532	8.986	(0.233)	(1.813)	0.829	12.963
Standard Deviation	0.334	0.138	5.379	0.434	2.134	6.443	10.822	1.709	0.061
Minimum	(0.751)	0.092	0.350	-	2.151	(7.950)	(17.080)	(1.509)	12.885
Maximum	2.867	0.988	76.390	2.857	12.350	13.850	22.420	2.889	13.065
Count	450	450	448	450	450	450	450	450	450

The descriptive statistics results are provided in table 2 for the data of UK companies where the stock return is computed as 0.100 which shows that the average number of UK companies provided positive stock return. The standard deviation is computed as 0.334 which shows the dispersion of the stock return. The minimum value is -0.751 or -75.1% whereas the maximum stock return is 2.877 or 287%. In respect to illiquidity, the mean value is computed for 0.338 which is below 1 and is closer to 0 which signifies a lower average zero return. The standard deviation is computed as 0.138 which depicts the incline or decline of illiquidity. The minimum value is 0.092 whereas the maximum value of liquidity is 0.988. The other variables descriptive results can be observed in the table.

Preliminary Testing

Table 6:

Hausman Test for UK companies

Chi-Sq. Statistic	Chi-Sq.	Prob.
0.000	8.00	1.00

Table 6 represents the Hausman test for the data of UK companies where the probability value is computed as 1.00. Therefore, this leads to the acceptance of null hypothesis and the rejection of alternative hypothesis. Hence, the random effect model of regression is applicable with the Hausman test.

Correlation Analysis

Table 7:

Correlation Analysis of UK companies

Correlation	Stock Returns
Illiquidity	0.043
Sig.	0.359
Price to Book	0.152***
Sig.	0.001
Book to Market	-0.245***
Sig.	0.000
LNMCAP	-0.045
Sig.	0.339
SMB	0.190***
Sig.	0.000
HML	0.149***
Sig.	0.002
IR	-0.133***
Sig.	0.005
LNGDP	-0.005
Sig.	0.913
*** Significance at 1%; ** Significance at 5%; * Significance at 10%	

Table 7 represents the correlation analysis of UK companies while reflecting to evaluating the association of stock return. The variables that are determined to have significant correlation with the stock return are price to book, book to market, SMB, HML and interest rate as the significance value is lower than 0.10. Furthermore, the book to market [B=-0.245] and interest rate [B=-0.133] are determined to have weak and negative association with stock return whereas the price to book [B=0.152], SMB [B=0.190] and HML [B=0.149] are identified to have positive and weak correlation with stock return. In respect to illiquidity, it is determined to have no significant association with the stock return.

Regression Analysis

Table 8

Regression Analysis of UK companies

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Illiquidity	-0.069	0.118	-0.581	0.562
Price to Book	0.003	0.003	1.139	0.255
Book to Market	-0.180***	0.039	-4.661	0.000
LNMCAP	-0.008	0.007	-1.090	0.276

SMB	0.009***	0.003	3.204	0.002
HML	0.003**	0.001	2.079	0.038
IR	-0.026**	0.010	-2.601	0.010
LNGDP	0.804***	0.290	2.773	0.006
C	-10.111	3.731	-2.710	0.007
R-squared	13.01%			
Durbin-Watson stat	2.112			
Prob (F-statistic)	0.00			

*** Significance at 1%; ** Significance at 5%; * Significance at 10%

Table 8 shows the results of the regression analysis where the influence of the variables is examined on the stock return of the UK companies. The F-statistic value is computed as 0.00 which reflects to the model of regression being significance. The R-square value is calculated as 13.01% which reflects that the variance of the dependent variable is explained or predicted by 13.01% through the independent variables. As per the main results, the factors that are determined to have significant effect on stock return of UK companies as per the p-value being lower than 0.10 are book to market, SMB, HML, interest rate and LNGDP. The variables that are determined to have negative influence on stock return are book to market [B=-0.180] and interest rate [B=-0.026]. This uses that the increase of book to market and interest rate would result in causing the stock return to decline by -0.180 and -0.026, respectively. On the other hand, the variables that are found to have significant and positive influence on stock returns of UK companies are SMB [B=0.009], HML [B=0.003] and LNGDP [B=0.804]. As per illiquidity it is identified to have insignificant influence on the stock return of UK companies.

DISCUSSION

Liquidity and asset pricing concept

From the above analysis of literature, it has been found that liquidity plays a massive role in financing. Liquidity is found as the capability of money to be exchanged for a higher value of goods and services. Consequently, an individual intending to buy an intangible or tangible asset or to pay for credit services availed must have sufficient amount of money and same scenarios lies with business corporations as argued by Waleed, Pasha and Akhtar, (2016). These findings are pertinent to the findings of Malik, Awais and Churched, (2016) where the researcher discovered that liquidity is considered as the money's actual worth and market value concerning other good or item. If the business wants to invest funds, buy equipment, plant and property, or paying for liabilities, all they want is enough amount of cash or cash equivalents which enhances liquidity. On the other hand, the findings of (Yameen and Pervez, 2016) also supported these results where the researcher found the liquidity notion as the capability of money to be easily modified from one state to other without an extensive amount of effort, for instance changing from cash into higher valued assets, stocks and shares.

In terms of asset pricing concept, it is found as the percentage if higher amount than the invested amount that investors are likely to receive by investing in shares or company's any stock such as shares or corporate bonds. This concept is in relevance with the asset return concept given by (Madushanka and Jathurika, 2018), where the scholar found that the difference between the purchase price of an asset and the selling price of an asset is asset return which is generated by periodic trading in a stock exchange or paid as a dividend by companies to equity holders. The fluctuation in daily return is grounded on cash flow projections of the company that ensures its liquidity. Edem, (2017) found that, in case of strong cash flow streams, the company pays higher dividend per share, this increases its share demand and thus, share prices increases with increasing share price return.

In terms of cause-and-effect relationship among liquidity and asset return or pricing, it has been found form the study of (Edem, 2017), that capital increasing transactions increase liquidity position of the firm. This is because these transactions require a business to invest in assets and projects that are profitable and less risky. This provides protection and surety of funds which enhance funds availability for the firms which eventually leads to higher returns in terms of dividend or highly stock market value due to increased returns.

Illiquidity and other determinants impact on stock return

The following research is emphasized on assessing the influence of liquidity on the assets return among the Pakistan and UK companies. There are several other variables that are also incorporated in the study which comprises of price to book, book to market, market capitalization, small minus big, high minus large, interest rate and GDP. The data is gathered from total of 60 companies where the 30 companies belong to Pakistan whereas the remaining 30 companies are from UK. The time frame from which the data is collected is from 2005 till 2019 which makes a total time period of 15 years. The results are divided into two categories where the first section evaluates the data of Pakistani companies whereas the second section investigates the data belonging to UK. While reflecting to the regression analysis of Pakistan, it was identified that the factors that are significantly influencing on stock return are illiquidity, HML and interest rate. Illiquidity is determined to have significant and negative effect on stock return which depicts that the increase of illiquidity would cause the value of stock return to decline. Similarly, the study conducted by Omri (n.d) has conducted a study on evaluating the effects of illiquidity on stock return among the Tunis Stock Exchange. The results of the study have revealed that the liquidity has a significant and negative influence on the stock return. The results show that the Pakistani investors are concerned with higher return for less liquid stocks where the returns are highly volatile. The other variable that are identified to have significant effect on Pakistani stock return are HML and IR where both are observed to have significant and positive effect. Similarly, the findings from study of Qasim (2018) also depicts that HML is an important determinant that influences on the stock returns of the company as investors invests in the companies that have high values. As per the interest rate, Al-Abdallah and Aljarayesh (2017) indicates that the low-interest rate in the country increases the flow of capital in the stock market; hence, this can reflect that the low interest rate in Pakistan leads to higher stock return.

While reflecting to the results of UK, it is identified that illiquidity has insignificant influence on the stock returns. Hence, the results contradict with the study of Omri (n.d) where the UK investors are not concerned with the volatility of the stock returns. Furthermore, book to market was identified to have significant and negative effect on stock returns. Other variables that are determined to have significant and positive effect are SMB, HML and LNGDP. While the interest rate is signified to have significant and negative effect on stock return. This can be reflected to the study of Al-Abdallah and Aljarayesh (2017) has demonstrated that the high interest rate increases the flow of capital in saving bank which thus reduces the flow of capital in stock market that affects the return. Therefore, this suggest that the high interest rate influences on the stock return. Hence, on the basis of the results, it can be concluded that liquidity is determined to have significant influence on the stock return of Pakistani companies whereas liquidity has insignificant effect on the stock return of UK companies.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The term liquidity is recognized as a complex concept which ranges by influencing the stock market especially on the stock value and return. Evaluating the liquidity can support in explaining different questions such as how risk-free treasuries have low required return, why equities imposes high returns and others. For organization, the deficit and surplus on the liquidity associated with the stock needs to be monitored and controlled. The deficit liquidity mainly arises from the shortage of stocks which can lead to concern for organization. Hence, it is critical to evaluate the impact of liquidity on the returns and value of the study. Therefore, the following research is mainly conducted to investigate the effect of liquidity on the stock return from the context of two markets which are Pakistan and the United Kingdom.

The approach that is made through measure the liquidity is through zero returns (ZR) which is calculated through first determining the daily zero returns and further dividing by the number of transaction days on the yearly basis which is 250. There are several other variables that are also incorporated for assessing the influencing of liquidity which comprises of book to market value, market capitalization, small minus big and high minus low. Other than that, the control variables are also incorporate which consist of interest rate and gross domestic product. The analysis of the data is through conducting the statistical analysis where the several statistical techniques are incorporate are descriptive, correlation and regression. The results are provided under two sections where the first section evaluates the data of Pakistani companies whereas the second section investigates the data of UK companies.

With respect to the results of regression of the Pakistani data, it was determined that the illiquidity has significant and negative influence on the stock return whereas interest rate and HML has significant and positive influence on stock return. As per the results of illiquidity, it is clear that the investors are highly concerned with the liquidity of the Pakistani companies as the increase of liquidity would cause reducing the stock return. While reflecting to the results of regression on UK data, it was identified that illiquidity has insignificant influence whereas the book to market, SMB, HML, IR and LNGDP has significant influence. Book to market and interest rate has negative influence on stock return whereas SMB, HML, interest rate and GDP have positive effect on stock return.

Recommendation

As per the results that are computed on UK and Pakistan, there are few recommendations that are provided for improving the stock return of the company that are provided for the respective authorities: The government or central bank of the countries can focus on reducing the interest rate where the low interest rate would motivate the investors to increase the capital flow on the stock market which in return would cause the stock return to incline and improve the liquidity (Al-Abdallah and Aljarayesh, 2017). The investors of the Pakistan are highly concerned with the liquidity of the stocks where it holds significant importance for investors and shareholders. Therefore, it is critical for the organization to improve its overall performance which can allow them to improve its liquidity in stocks. The government should emphasize on improving the overall economy as it can contribute towards improving the performance of the organization and thus can contribute towards the enhancement of stock return.

Limitations

There are several limitations that are observed while conducting the following research which provides a future recommendation for conducting the research: The sample size that is considered for the following research is 60 companies where 30 companies belongs to UK whereas the other remaining companies belong to Pakistan. The sample size is considered small where at least data of 50 companies

or 60 companies could have improved the reliability and validity of results. Several relevant journals and articles were inaccessible as it required subscription and payment; hence, it also resulted in causing limiting the empirical evidences. Due to time constraint, the quantitative research design is only incorporated where the qualitative design is also applicable with the study where the management of the organization can be interviewed for determining the importance of liquidity.

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