IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON THE LIQUIDITY OF MUTUAL FUNDS: THE MODERATING ROLE OF CORPORATE GOVERNANCE

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Abstract-*Mutual funds provide an opportunity to invest in a diversified portfolio. The mutual fund industry is growing at a rapid speed. The prime function of mutual funds is to provide liquidity to the investor. Investors prefer mutual funds with high liquidity, mutual fund managers are genuinely concerned regarding the mutual fund's liquidity. In recent times the concept of corporate social responsibility (CSR) is getting popularity. The study aimed to determine the impact of CSR (Corporate Social Responsibility) on the liquidity considering the role of corporate governance on the mutual funds operating in Pakistan. This is the first attempt to understand the impact of CSR on the liquidity of mutual funds. The study investigated the impact of CSR on liquidity during the period (2011-2021). The sample of the study consists of both Islamic and conventional mutual funds. For this purpose, the CSR and CG index was developed, and the annual financial reports were examined. The study used the generalized method of moments (GMM). The GMM model controlled the endogeneity problem caused by firm-specific variables and liquidity. The result shows that the fund engaged in a prominent level of CSR activities provides more liquidity. The corporate governance not only significantly impact the liquidity but it also moderate the relationship between CSR engagement and liquidity. This effect is more pronounced in conventional mutual funds. The study's finding dictates that incorporating CSR activities will lead mutual funds toward more liquidity.*

Key Words: *Mutual Funds, Social Corporate Responsibility, Liquidity, Legitimacy theory Stakeholders, investors*

1. INTRODUCTION

Mutual funds are financial drivers that target investors to invest in diversified portfolios. Most of the time, investors don't have sufficient and accurate information about financial assets. Investors always seek financial pieces of advice. Mutual funds managers are equipped with expertise, knowledge, and skills (Afza & Rauf, 2009). The mutual fund is an opportunity for investors to earn a good return. The mutual fund pooled the money from investors to invest in different assets. There exist Different kinds of mutual funds. The mutual funds describe their objectives and investment decision styles to inform the investors. This provides confidence and is key to boosting and safeguarding the investors' interests. For mutual funds, there are various options available in which they can invest. This includes growth stocks, value stocks, asset-class funds, equities, real assets, bonds, etc. In Pakistan, mutual funds were introduced in 1962 when National Investment Trust offered the units to the general public. The mutual funds in Pakistan exhibit phenomenal growth, but as compared to the other countries, this industry is small.

The present net assets value changes daily, which is available on the Mutual Fund Association of Pakistan (MUFAP). Mutual funds have shown tremendous growth in the last two decades, and this industry contributes to the economy of Pakistan. The mutual funds exhibited a 13.4% growth rate in the previous 10 years. (MUFAP, 2019). In 1999 the net asset value was Rs. 16 billion which increased to Rs. 137 billion; in 2005 and 2020, the net asset value is about Rs. 742 billion. In the last 15 years, the mutual fund industry grew up to 441.6%. The growing mutual fund industry can reshape the existing financial structure and financial markets in developing countries and Pakistan. It is a need

time to understand the different factors affecting the mutual fund's liquidity and the risks associated with it.

Mutual funds are getting popular in recent times. This industry has shown tremendous growth in the last decade, not only in Pakistan but worldwide. This is the only channel available to investors, who are the lake of skill, knowledge, and expertise, to invest in a diversified portfolio (Clare et al., 2019). The existing literature proposed the contribution of the mutual fund industry to the financial markets. Within mutual funds, equity funds constitute a major portion compared to other kinds of funds. Wahal & Wang (2011) and Hiraki et al., (2015) documented the emergent role of the mutual fund industry in the economy.

Financial assets can be categorized into two groups; liquid and illiquid assets. Although investors need to gain the skill and knowledge to select the best investment, for this reason, they prefer mutual funds for investment, but still, they expect that mutual funds will provide liquidity. Liquidity is the key element for the investor to meet the contingent events. The literature expressed that mutual funds exhibit liquidity. The illiquid mutual funds yield excess abnormal returns (Brennan & Subrahmanyam, 1996; Amihud, 2002; Hasbrouck 2009).

After the financial crisis, liquidity is considered a very important factor in the financial markets. Now it is the most common factor studied and given attention by all the players in financial markets. The term liquidity is easy to understand and defined by many researchers, but until now, no clear definition exists (Urniežius, 2012). Literature is available that supports that liquidity is a common characteristic in stocks (Chordia et al., 2000; Hasbrouck & Seppi, 2001; Pástor & Stambaugh, 2003; Acharya & Pedersen, 2005; Jing Chen, 2005; Korajczyk & Sadka, 2008; Sadka, 2006). The studies suggest the liquidity premium across stocks. The studies evidenced that liquidity is n key element in asset pricing in the UK market. Hwang & Lu (2007) produced contrary results by arguing that illiquid stocks outperform compared to their counterpart liquid stocks. The study shows that high illiquidity results in high expected return means that the liquidity of the mutual fund is a vital (Lin et al., 2011; Reichenbacher et al., 2020).

The liquidity of the financial assets affects the returns of assets. Finance theory suggests a positive association between illiquidity and returns. If stocks exhibit high illiquidity, the stock will yield more returns (Amihud & Mendelson, 1986). The illiquid assets, being a risk, are required to produce excess returns to attract investors. Since liquidity systematically changes over some time (Chordia et al., 2001). The finance theory also argued that liquidity risk, the covariance of asset returns to change in market liquidity, should be compensated by providing high returns (Acharya & Pedersen, 2005).

These exist two important factors that emphasize understanding the liquidity of mutual funds. First of all, the Mutual fund industry is growing at a rapid speed not only in Pakistan but also all over the world. The mutual funds exhibited a 13.4% growth rate in the previous 10 years. (MUFAP, 2019). In 1999 the net asset value was Rs. 16 billion, which increased to Rs. 137 billion in 2005, and in 2020; the net asset value is about Rs. 742 billion. In the last 15 years, the mutual fund industry has grown by 441.6%. The second motivation, the prime function of mutual funds, is to provide liquidity to investors through day-to-day purchases and redemption. The studies showed that high liquidity resulted in high returns. So it is vital to understand the liquidity phenomenon of mutual funds.

In recent times the concept of corporate social responsibility (CSR) is very much pronounced by firms. To get the attention of all the stack holders and to develop a soft image, the firms are showing keen interest in corporate social responsibility (Awaysheh et al., 2020; Barauskaite & Streimikiene, 2021; Maqbool et al., 2022). Corporate social responsibility (CSR hereafter) has turned out to be an important and vital business activity and a critical management subject over the past years (The Economist 2008). An extensive global survey dictates that two-thirds of people stated that the firms which contribute toward social activities beyond increasing shareholder wealth would like firms to contribute to social goals beyond shareholder wealth, attracting them for investment and purchasing decisions. Mutual funds are becoming more socially responsible, continuously following the global sustainable development program. Fund managers usually aim to invest socially responsibly (Bauer et al., 2006a; El Ghoul & Karoui, 2017a). The COVID-19 pandemic

resulted in more consciousness regarding people's health as well as social stability; people have paid more attention to corporate social (Kong et al., 2022; Kong et al., 2022).

Various studies on firms in the literature indicate that Corporate Social Responsibility has influenced liquidity (Dhaliwal et al., 2011; Jiraporn et al., 2014Jang 2014; Dhaliwal et al., 2011; Subramaniam et al., 2016). According to the authors' knowledge, literature only explains the relationship between corporate social responsibility and liquidity in the firm context. A study has yet to be conducted to examine the impact of corporate social responsibility on the liquidity of the mutual fund. Therefore, this study will contribute to the existing literature on how corporate social responsibility will affect the liquidity and liquidity risk of the mutual fund. This study will contribute to the existing literature on how corporate social responsibility can impact the liquidity of mutual funds. This is the first attempt to understand the impact of CSR on the liquidity of mutual funds.

Additionally, the moderating role of corporate governance in the relationship of CSR and liquidity is measured because the past studies show that corporate governance has impact on the liquidity of the firms. The literature suggests high liquidity can be attributed to good corporate governance. (Subramaniam et al., 2016) provided more information regarding the correlation between the size of the board and stock liquidity. Foo & Zain (2010) concluded that the independence of the board and the board's diligence are responsible for the liquidity .Poor governance structure enhance the chances of financial risks (Jiraporn et al., 2015). Furthermore, inexperienced fund managers are unable to manage these kinds of risks effectively (Johnson et al., 2006). This study also addresses the endogeneity issue and, therefore, used a dynamic model and estimated the results using the generalized method of moments (GMM) technique. Mutual fund managers are very concerned regarding the mutual fund's liquidity, liquidity risk, and systematic risk. Investors prefer mutual funds with high liquidity to fulfill their short-term needs. The investor will prefer the mutual fund, which has high liquidity. The current research will provide an opportunity to fund managers and asset management firms how they can improve the liquidity of the mutual fund. Liquidity is the main concern for investors. The liquidity of the mutual fund will facilitate the investors to meet their short-term financial needs of investors.

2. LITERATURE REVIEW

Cao et al., (2011) studied hedge funds and how management the liquidity risks when they experience liquidity shock. The results showed that managers of these hedge funds could respond to changes in liquidity. Managers adjust by decreasing (increasing) portfolios' exposure when the market exhibit low (high) liquidity.

The liquidity features of assets affect the returns of the assets. According to finance theory, a positive relationship exist between the illiquidity and returns of the assets; the higher the illiquidity possessed by the assets will result in a high return associated with (Amihud & Mendelson, 1986). The illiquid assets are required to offer more returns than the liquid stocks. These high returns of illiquid stocks are because of high liquidity risk. Moreover, liquidity systematically changes over time (Chordia et al., 2000); theory also argues that liquidity risk, the covariance of asset returns with the market liquidity, should be incorporated during the pricing of the financial assets (Acharya & Pedersen,2005). There is substantial literature that suggests the liquidity premium persists in financial assets (Brennan & Subrahmanyam, 1996; Amihud, 2002; Hasbrouck and Saar, 2009) and moderate support of liquidity risk premium in financial assets (Pástor & Stambaugh, 2003; Sadka, 2006; Watanabe &Watanabe, 2008; Hasbrouck, 2009) in equity returns. First, the study find that liquidity buffers reduced outflows during March 2020 only to a limited extent. Second, that funds entering the crisis with higher liquidity buffers were less likely to involve in cash hoarding and more likely to use cash buffers to meet outflows. The results suggest that higher liquidity buffers can reduce procyclicality primarily by supporting the liquidity management strategies employed by fund managers (Dekker et al., 2023). The studies endorse the presence of a liquidity premium in equity returns. Regression results reveal that a one-unit increase in the standard deviation of Amihud illiquidity of the stocks will cause to increase in a raw (risk-

adjusted) annualized return of 3.96 (4.20) percent during the following year Several papers provide evidence of liquidity in the stocks(Chordia et al., 2000; Hasbrouck & Seppi, 2001) while Pástor and Stambaugh(2003); Acharya and Pedersen(2005), Jing Chen(2005); Korajczyk and Sadka(2008); Sadka(2006) proved that stocks offer a premium on return because they possessed liquidity risk. The studies also provide evidence that liquidity is important in asset pricing in the UK financial market. Hwang and Lu (2007) suggested a counter-argument; he experienced that liquidity characteristics do not impact stock pricing. The study concluded liquid assets outperform illiquid assets Foran et al.(2014) reported that the UK equity market provides a premium against systematic liquidity risk. The UK's income and equity funds invest in more liquid stocks, and small stock funds incorporate illiquid stock in their portfolio.

Literature indicated that the liquidity investment style considering liquidity, investing in the less liquid stocks, yields risk-adjusted return in the framework of three best-known market anomalies: small minus big (SMB), high minus low (HML) (Carhart, 1997). Amihud & Mendelson (1986) analyzed the relationship between liquidity and stock return by using the quoted bid-ask spread over the period 1961–1980. The study found the existence of liquidity premiums across the stocks. (Datar et al., 1998) conducted the study by using turnover rate (the number of shares traded as a fraction of the number of shares outstanding) as a proxy for liquidity and found that stock return has an inverse relationship to the turnover rate, which endorse the previous results that more illiquid stocks provide high above-average returns.

Pástor & Stambaugh (2003) argued that market liquidity is vital in asset pricing, i.e., stocks. They determined that expected stock returns depend on aggregate liquidity. The results indicate that small firm stocks are illiquid and highly provoked by aggregate liquidity. Lou & Sadka (2011) established the importance of the difference between liquidity level measured by the illiquidity measure (Amihud, 2002) and liquidity risk, which is associated with the variations s in market-wide liquidity. They documented that liquidity risk predicts stock prices better during a crisis than liquidity level.

Corporate social responsibility (CSR hereafter) has become an important and vital business activity and a critical management subject over the past years (The Economist 2008). An extensive global survey dictates that two-thirds of people stated that the firms that contribute toward social activities beyond increasing shareholder wealth would like firms to contribute to social goals beyond shareholder wealth, attracting them for investment and purchasing decisions. (Environs International 1999). The corporate strategy to attain competitiveness and achieve long-term success, indulging in CSR activities significantly contributes to achieving superior performance by encouraging employee morale, targeting talented and capable employees and "green" consumers in local communities, making efficient usage of resources, and obtaining favorable credit rating and easier access to finance (Jiraporn et al., 2014).

Jang (2014) studied the relationship between liquidity and disclosure of corporate social responsibility in Australian companies. The study includes the 200 Australian companies listed on the Australian Stock Exchange. Regression analysis was used to determine the relationship between the level of disclosure of corporate social responsibility and liquidity. The study concluded the negative relationship between the level of disclosure of corporate social responsibility and liquidity. To raise the liquidity level, Australian companies are required to disclose.

Demsetz (1968) suggested that centralization in the stock market representing less information asymmetry resulted in low transaction costs and increased market liquidity. Copeland and Galai (1983) argued that a high bid-ask spread leads to higher price volatility, and when there is information asymmetry, then it causes the market liquidity to decrease. Diamond and Verrecchia (1991) concluded that increasing corporate social responsibility disclosure will enhance market liquidity. Conversely, the opposite argument dictates that high disclosure of corporate social responsibility attracts investors' unnecessary attention, increasing share price volatilities which may cause decreased market liquidity.

According to Dhaliwal et al., (2011), when the level of non-financial information is increased, the cost of capital tends to decrease. When there is a decrease in the level of disclosure of CSR

information, the cost of capital tends to increase. There is a general perception of a positive relationship between corporate social responsibility disclosure and market liquidity. When firms face lower market liquidity, they are likely to involve in CSR disclosure activities, and this causes increased market liquidity.

Subramaniam et al., (2016) explore the relationship between the corporate social responsibility disclosure level and liquidity in Malaysian companies. The sample of this study consisted of 194 Malaysian companies listed on the Malaysia Stock Exchange during the year 2009. The data were collected from the annual financial reports of the companies. A multiple regression analysis was conducted to study the relationship. The results exhibited a positive relationship between the level of corporate social responsibility disclosure and the companies' liquidity. More corporate social responsibility disclosure will increase Malaysian companies' liquidity levels. The firms that employed greater CSR practices exhibit high liquidity. The study's result also discloses that firms with greater liquidity only regard some environmental and social performance dimensions equivalently (Uyar et al., 2023). The banks following the CSR practices reveal more liquidity and have attracted more loans and deposits (Zheng et al., 2023).

When markets are liquid, Faure-Grimaud & Gromb (2004) argue, shareholders have a greater incentive to engage in value-adding activities like monitoring. Stock liquidity improves when there are fewer instances of information asymmetry and fewer instances of agency conflicts (Brennan & Subrahmanyam 1995; Kyle1985). Stock market liquidity was found to improve with stricter regulation of corporate governance practices (Chhabra et al., 2009; La Porta et al., 2000; Shleifer & Vishny, 1997). According to the literature, low liquidity is the direct result of bad corporate governance and inadequate safeguards for investors. Brockman and Chung (2003) conducted an in-depth study of the Hong Kong market using a comparative approach, and they discovered a connection between investor protection (corporate governance) and firm liquidity. Better investor protection policies led to high liquidity, as predicted by the results, which was in line with findings from similar studies. Little empirical support regarding the connection between corporate governance and liquidity was provided by (Edmans et al., 2013). Several different pieces of research have found a positive correlation between liquidity measures and sound corporate governance practices. Companies with an effective governance structure had higher stock liquidity, regardless of the country of their legal origin (Chung et al., 2012)..

3. HYPOTHESIS DEVELOPMENT

Legitimacy theory is also suggested to explain the significance and importance of CSR reporting (van der Laan, 2009). According to legitimacy theory, “the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995). The firms have to behave in ways that are required by social expectations. The legitimacy gaps normally occur when the firms do not accomplish the goals desired by the stakeholders. The legitimacy theory suggests that firms have a social contract with society that compels the firms to engage in CSR and protect the benefit of society as well as the shareholder. The firms are not only responsible to maximize the profit but also safeguarding the interest of all stakeholders; the people and other groups who are affected by the operations of the firms like customers, suppliers, employees, competitors, society, and investors. The investors, directly or indirectly, are responsible to affect the firms’ wealth(Post et al., 2002). To achieve sustained and continuous growth, the firms should protect and give priority to the interest of the stakeholders (van der Laan, 2009), the firms should formulate the activities and perspectives following the stakeholder view. If the mutual fund firms, follow the CSR then it results to fulfill the rights of investors and it will try to provide more liquidity to investors. By following the CSR liquidity will improve. So the investor of a mutual fund always invests in the fund which protects its right. And the mutual fund investor always invests in a fund that has high liquidity.

H1: Corporate social responsibility has a positive impact on the liquidity of mutual fund

The relationship between shareholders and the executives of firms is often discussed through the lens of the agency theory developed by (Jensen & Meckling, 1976). When investors of mutual funds

put up their own cash to invest in asset Management Company, they become de facto owners of that company. But they don't get involved in day-to-day operations; instead, they hire professionals (directors and executives) to manage the company's affairs, create strategic policies, and outline operational procedures. The shareholders are the principals because they are the ones who choose who will run the company. Directors and executives are referred to as agents because they are tasked with managing the company's affairs and increasing the wealth of the owners. The relationship between shareholders (principal) and directors (agents) can be explained by agency theory. In this arrangement, the agents make decisions on behalf of the principals and act autonomously in their work. However, problems arise when ownership and management are kept apart. The agency problem arises when a principal reasonably anticipates that an agent will not act in the principal's best interest (Homayoun & Homayoun, 2015). The shareholders and the directors, as principal and agent, may have competing interests. Instead of looking out for shareholders' best interests, board members often prioritize protecting themselves. Their primary responsibility is to oversee company operations in a way that increases liquidity for investor of mutual funds. The managers at mutual funds should protect the rights of investors instead of their own goal. The literature provides the evidence that corporate governance has impact of the liquidity of the (Chhabra et al., 2009; La Porta et al., 2000; Shleifer & Vishny, 1997; Foo and Zain, 2010; Ali, 2016; Subramaniam et al., 2016). The better CSR and CG practices can improve the liquidity of the firms. Therefore the following hypothesis can be formulated:

H2a: Corporate governance quality has a positive impact on the liquidity of mutual fund.

H2b: The relationship between corporate social responsibility and liquidity is positively moderated by corporate governance quality.

4. METHODOLOGY

4.1 Dependent Variable

This study used the liquidity of mutual funds as the dependent variable. The liquidity of the mutual fund is calculated in two steps; in the first step, we identify the firms in which the mutual fund invested and calculated the liquidity of those firms (Amihud, 2002). In the second step, we calculate the weighted average of (Amihud, 2002) measure of each stock holding of the mutual funds. This study uses the (Amihud, 2002) measure, which is probably the best-known liquidity measure (Amihud, 2002). A fund's Amihud measure is defined as the weighted average of the Amihud measure of each stock held by the mutual fund, where the Amihud measure of a given stock holding is computed

$$ILLIQt = \frac{1}{D} ln \sum_{D=1}^{D} \frac{|Rid|}{PidVOLid} \dots\dots\dots\dots\dots (1)$$

Where *D* = the number of trading days during the month (t)

Rid = the stock's return on day *d*

Pid = the adjusted price on day *d*

Valid = the trading volume on the day

This method is used by different researchers (Deb, 2011; Deb, 2011; Urniežius, 2012: Idzorek et al., 2012).

4.2 Independent Variable

4.2.1 Corporate social responsibility

In this study, corporate social responsibility is used as the dependent variable. This study will adopt the approach that relies on matching fund holdings with individual stock characteristics to measure the mutual fund corporate social responsibility. The previous studies (Borgers et al., 2015; El Ghoul & Karoui, 2017; García-Melón et al., 2016) used the same approach to measure the mutual fund corporate social responsibility scores. This study follows the same methodology to measure a CSR score at the fund level and a yearly frequency using the following equation:

$$CSR_{j,t} = \sum_{i=1}^{N_{j,t}} \omega_{i,j,t} \times CSR_{i,t} \dots\dots\dots\dots\dots\dots (2)$$

Where $\omega_{i,j,t}$ is the weight of stock *i* in fund *j* at the end of year *t*; $N_{j,t}$ is the number of stocks held by fund *j* at the end of year *t*, and $CSR_{i,t}$ is the CSR score of stock *i* at the end of year *t*.

The corporate social responsibility disclosure includes seven dimensions, just as (health sector, natural disasters, environmental issues, employee welfare, and donation for the educational sector, Product/services statements, and other donations). Firstly, the author will calculate the overall CSR score based on the above seven Corporate Social Responsibility (CSR) dimensions. The score will calculate by using the binary numbers (0/1). If the firm discloses the item of CSR (e.g., donation for health, education, and environmental issues, etc.) in the annual report then code 1 otherwise 0. After assigning the binary number to every CSR item, all items' scores are added to get the ultimate score for the company. The previous studies, (Benlemlih, 2014; Reverte, 2009; Yang et al., 2019; Majeed et al., 2015) used the same approach to measure the firm's CSR scores

4.2.2 Corporate governance

The overall quality of corporate governance will measure by the corporate governance index. Many studies used the corporate governance index to measure the overall quality of corporate governance. In Pakistan, all the listed firms follow the SECP code of corporate governance. This code has different clauses and governance previsions. The corporate governance index is made, keeping in view the different previsions of the code of corporate governance. The studies like Javaid & Saboor (2015) and Samaha et al., (2012) also made the corporate governance index consisting of different governance previsions to measure governance quality.

4.2.2 Control Variable

Fund size, fund age, expense ratio, management fee, manager's education, and manager's experience are used as control variables in this study. The natural log of assets belonging to the fund is a proxy for fund size (Ferreira et al., 2013). For how many years the fund is available in the market referred to as fund age (Makni et al., 2016), the fund expense to total net assets is used to measure the expense ratio (Makni et al., 2016). The percentage of fees which is paid to managers is referred to as management fee (Bauer et al., 2006b). If fund managers hold MBA or professional degree (CFA or ACCA) he is assigned 1 otherwise zero to measure the manager's education and the total number of working years is used as a proxy for managers experience (Naidenova et al., 2015)

Table1 shows the various studies in the literature that used these control variables in the studies of different aspects of mutual funds (Philpot & Peterson, 2006; Morey, 2002; Maqbool et al., 2022)

Table 1 Control Variable

Fund size	Natural log of the total net asset of the fund	(Ferreira et al., 2013)
Fund age	Fund age measured in years	(Makni et al., 2016)
Expense ratio	Total expenses / Total net assets	(Makni et al., 2016)
Management fee	Percentage of the fee paid to management	(Bauer et al., 2006b)
Manager's Education	Dummy variable is equal to 1 if managers got professional education (FCA, ACCA) and zero otherwise	(Naidenova et al., 2015)
Manager's Experience	The number of years a fund manager has served in the mutual fund industry.	(Naidenova et al., 2015)

5. SAMPLE AND DATA COLLECTION

This study includes data from 210 mutual funds from Pakistan. This sample size is large compared to the other studies conducted in Pakistan (Rao et al., 2015; Arif et al., 2019; Naveed et al., 2020; Maqbool et al., 2022). The data on liquidity and CSR of mutual funds are collected from 2011 to 2022. The funds launched recently and have no data for more than one year are excluded from this study; the sample is also free from survivorship bias. The data of the variables included in the study are collected from different sources. To measure the liquidity, the data is collected from Yahoo Finance. The data on the CSR of the firms are collected from the State Bank of Pakistan (SBP) and the Pakistan Stock Exchange (PSX)

6. RESEARCH MODEL

Wintoki et al., (2012) concluded that the relationship between corporate governance variables and firm performance is dynamic. The study applied the dynamic panel model rather than fixed-effect regression and applied GMM (Generalized Method of the moment) technique. The persistence effect characterizes the performance of firm and mutual funds' performance. The persistence effect advocates that the fund's current performance is affected by the previous performance (Kaur, 2018). Literature suggests using the GMM model to measure CSR's impact on the liquidity of mutual funds. There are different studies available in the literature which used GMM to study the different variables of the performance of mutual funds (Kryzanowski and Mohebshahedin, 2016)

$$Liquidity_{it} = \alpha_0 + \beta_0 Liquidity_{t-1} + \beta_1 CSR_{it} + \beta_2 FSiz_{it} + \beta_3 FAge_{it} + \beta_4 ExpRatio_{it} + \beta_5 MgtFee_{it} + \beta_6 MgrEdu_{it} + \beta_7 MgrExp_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots (3)$$

$$Liquidity_{it} = \alpha_0 + \beta_0 Liquidity_{t-1} + \beta_1 CSR_{it} + \beta_2 CG_{it} + \beta_3 CSR * CG_{it} + \beta_4 FSiz_{it} + \beta_5 FAge_{it} + \beta_6 ExpRatio_{it} + \beta_7 MgtFee_{it} + \beta_8 MgrEdu_{it} + \beta_9 MgrExp_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots (4)$$

Where the $liquidity_{it}$ shows the liquidity of fund *i* at time *t* CSR is corporate social responsibility, CG is corporate social responsibility, $\beta_3 CSR * CG_{it}$ is interaction term of CSR and CG for moderating variable, *FSiz* is fund size, *FAge* is fund age, *ExpRatio* is expense ratio *MgtFee* is the management fee, *ManEdu* is manager education and *MangExp* is manager's experience.

Table 2 shows the descriptive statistics for the variable included in the study, including dependent variable liquidity and independent variable CSR and control variables fund size, fund age expense ratio management fee manager's education, and managers' experience. The mean accounts for central tendency, while the standard deviation shows the variation from the mean value of the variables. The mean value of the dependent variable is -15.603. It is discussed earlier that the Amihud measure of liquidity refers to the illiquidity of the fund; that's why the negative sign shows the illiquidity of the fund. The standard deviation of the liquidity is 9.37. The mean value of the independent variable CSR is 0.334, and the standard deviation is 0.099. The mean value of control variable fund size, fund age, expense ratio, management fee, manager's education, and manager's experience is 1.18, 4.12, 1.34, 0.67, 0.47, and 4.43, respectively.

Table 2 Descriptive Statistics

	Mean	Min	Max	Std. Dev.
CSR	0.344	.206	0.516	0.099
CG	25.77	22	32	2.2062
FSIZE	13.82	12.04	15.62	1.183
FAge	6.66	1.000	14.00	4.121
ExpRatio	2.63	0.720	4.950	1.346
MgtFee	1.530	0.000	3.000	0.607

MgrEdu	0.333	0.000	1.000	0.471
MgrExp	10.35	5.000	18.00	4.432
Liquidity	-15.60	-22.92	-0.205	9.371

7. RESULTS AND DISCUSSIONS

Table 3 shows the correlation analysis. From the result, it is concluded that the control variable has no strong correlations. This shows that multicollinearity among the control variable is not an issue.

Table 3 Correlation Matrixes

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Liquidity	1.000								
(2) CSR	-0.023	1.000							
(3) CG	0.108	-0.063	1.000						
(4) FSIZE	0.024	0.015	-0.050	1.000					
(5) FAge	0.084	-0.099	-0.049	0.085	1.000				
(6) ExpRatio	-0.079	-0.032	-0.299	-0.272	0.138	1.000			
(7) MgtFee	-0.030	-0.025	-0.075	-0.248	0.251	0.437	1.000		
(8) MgrEdu	0.128	0.076	0.078	0.009	-0.052	-0.024	0.110	1.000	
(9) MgrExp	0.052	-0.029	0.524	-0.004	0.034	-0.266	-0.009	0.072	1.000

Table 4 displays the results of GMM regression analysis to test the hypothesis 1 and 2. The model 1 reprsents the result to test the hypothesis 1. "CSR scores are associated with higher Liquidity levels, as indicated by its statistically significant coefficient of 1.404 and p-value <.01. The results exhibit that the CSR score impacts the liquidity of the mutual fund. As discussed earlier that Amihud is a measure of illiquidity. It means that when the CSR score increases, the illiquidity decreases by 1.404. When illiquidity decreases, it means the liquidity increases. From the results, it is concluded that increasing the CSR score will increase the liquidity of mutual funds. This liquidity coefficient is significant (p<.01). Based on this result, H1 is rejected. The results suggest that corporate social responsibility affects the liquidity of mutual funds. These findings are consistent with the previous studies conducted on the firm level (Mallouh & Tahtamouni, 2018; Jitaree, 2015; Performance, 2016; Jang, 2014). It reflects that current liquidity is influenced by previous liquidity. This indicates that the mutual funds try to invest in the firms which follow the CSR criteria. Because of this, mutual funds exhibit liquidity which is a prime concern for investors. This indicates that the mutual funds try to invest in the firms which follow the CSR criteria. Because of this, mutual funds exhibit liquidity which is a prime concern for investors. The coefficients of management fee and fund age are also significant. Again, the negative sigs with these coefficients show that the funds' illiquidity is reduced, hence increasing the liquidity. The other control variable, manager's experience, and expense ratio, manager education, and fund size are insignificant.

The Wald Tests and Hansen Tests results show that there is no issue with the model; the results show the significance of the model as the Wald test has a chi-square value of 17219.6, and this is significant with a p-value of 0.000 (P<.01). The P value of Hansen Test is 0.235 which indicates that there is not any evidence of model misspecification.

Table 4 shows the results of moderating effect of CG in relationship between CSR and liquidity. The results show significant CG index coefficients -0.209 at p- value< .05. This refers that Illiquidity decreases by 0.209 for every one unit increase in corporate governance improves. When illiquidity decrease it means that by increasing the corporate governance the liquidity of the fund increases. This result is consistent with previous studies in firm prospective which indicates that improved corporate governance should lead to a more liquidity distribution by the fund to its shareholders.

Table 4 Corporate social responsibility and liquidity: Moderating role of corporate governance.

Liquidity	Model 1	Model 2
$Liquidity_{t-1}$	1.404***	1.4***
	-0.018	-0.028
CSR	-10.438***	-9.274*
	-1.849	-5.257
CG		-0.209**
		-0.103
CSR*CG		-0.076*
		-0.045
FSIZE	-0.064	-0.131
	-0.04	-0.084
FAge	0.069***	0.046
	-0.015	-0.03
ExpRatio	0.039	0.054
	-0.04	-0.088
MgtFee	-0.245 **	-0.386 **
	-0.099	-0.222
MgrEdu	0.137	0.095
	-0.124	-0.277
MgrExp	0.015	-0.023
	-0.01	-0.091
Constant	6.714***	11.063***
	-0.835	(2.792`)
AR1 (Pr > z)	-6.65 (0.000)	-4.94 (0.000)
AR2 (Pr > z)	-1.000 (0.318)	-1.26 (0.209)
Hansen J. (Prob > Chi)	51.79 (0.235)	11.29 (0.123)
Wald Test	17219.6 (0.000)	5625.17 (0.000)

With a coefficient value of -0.076, the interaction term of CSR and CG index (CSRCG index) is statistically significant at p-value <0.10. Illiquidity decreases by 0.076 for every one unit that the CSRCG index rises. Therefore, this result supports hypotheses (2), which states that the relationship between CSR and Liquidity is moderated by the level of corporate governance. The current association between CSR and liquidity is strengthened by the positive correlation between moderator (CG) and liquidity. These results suggest that the quality of CGs has a major bearing on the liquidity of Pakistani mutual funds. The coefficients of the control variables in model 2 show similar trends and have the same statistical significance as those in model 1.

7.1 Additional Analysis

The Mutual fund industry in Pakistan comprises conventional and Islamic funds. Pakistan's mutual fund industry is worth Rs. 986.3 billion until the end of May 2021 (Maqbool et al., 2022). Conventional mutual funds have a long trading history, but Islamic mutual funds are a new

emerging concept. Islamic funds are traded the same way as conventional funds, but there are some differences in both. Conventional mutual funds can invest in any financial asset without boundaries or restrictions.

On the other hand, Islamic mutual funds have to follow some investment restrictions. Islamic mutual funds are compelled to invest only in Shari'ah compliance financial assets. Interest is prohibited in Islam; Islamic mutual funds only invest in interest-free assets. Islamic mutual funds invest in businesses not allowed by the Sharia'h, like alcohol, tobacco, biotechnology for human cloning, and companies whose capital structure has more (Naveed et al., 2020).

Table 5 also shows the GMM results of conventional and Islamic mutual funds to support the hypothesis 1. The results exhibit that CSR score has an impact on the liquidity of the conventional and Islamic fund mutual fund. When the CSR score is increased one unit, the illiquidity decreases by 0.961 for conventional funds and 1.067 unit in Islamic funds. The When illiquidity decreases for conventional funds and, it means the liquidity increases. From the results, it is concluded that increasing the CSR score will increase the liquidity of conventional and Islamic mutual funds. The effect of CSR if more prominent in Islamic mutual funds as compare to the conventional mutual funds. This coefficient of liquidity is significant at $p<.05$ and $p<.01$ for conventional and Islamic mutual funds respectively.

Table 5 CSR and liquidity: Moderating role of CG (Conventional funds vs Islamic funds)

	Conventional Fund		Islamic Fund	
Liquidity	Model 1	Model 2.	Model 1	Model 2
$Liquidity_{t-1}$	0.627***	0.565***	1.454***	1.328***
	(0.064)	(0.061)	(0.098)	(0.17)
CSR	-0.961**	-1.024**	-1.067***	-1.065***
	(0.452)	(0.4280)	(0.336)	(0.303)
CG		-0.113***		-0.074**
		(0.033)		(0.035)
CSR*CG		-0.6400***		-0.156**
		(0.118)		(0.0783)
FSIZE	0.03	0.003	0.147 **	0.003*
	(0.051)	(0.049)	(0.067)	(0.076)
FAge	-1.467	-3.824	-0.003	-0.003
	(2.206)	(2.264)	(0.013)	(0.016)
ExpRatio	0.01	-0.064	0.01	0.024
	(0.052)	(0.051)	(0.052)	(0.075)
MgtFee	-0.282***	-0.414***	-0.15	-0.174
	(0.08)	(0.088)	(0.202)	(0.222)
MgrEdu	0.187*	0.233**	-0.183*	-0.084
	(0.107)	(0.112)	(0.169)	(0.174)

MgrExp	-0.022**	0.001	-0.026**	-0.023
	(0.01)	(0.013)	(0.016)	(0.018)
Constant	-7.793***	-5.451***	11.021***	10.128***
	(1.558)	(1.681)	(2.277)	(3.682)
AR1 (Pr > z)	-7.52 (0.000)	-7.52 (0.000)	-5.08 (0.000)	-5.52 (0.000)
AR2 (Pr > z)	1.44 (0.2500)	1.44 (0.2500)	1.49 (0.144)	1.44 (0.15)
Hansen J(P > Chi)	34.79 (0.3500)	34.79 (0.3500)	39.28 (0.201)	51.79 (0.235)
Wald Test	15895.44 (0.000)	15895.44 (0.000)	430681.5 (0.000)	118995.44(0.000)

Table 5 shows the GMM results of conventional and Islamic mutual funds by introducing the moderating effect of CG in the relationship of CSR and liquidity. The results exhibit that CG index has an impact on the liquidity of the conventional and Islamic mutual fund. When the CG index is increased by 1 unit, the illiquidity decreases by 0.113 and .074 in conventional and Islamic funds respectively. These results are significant at 10% and 5% level of significance for conventional and Islamic funds respectively. The CG index effect is more pronounced in conventional mutual funds as compare to the Islamic mutual funds. The coefficient of interaction term CSR and CG (CSR*CG) are -0.64 ($p<.01$) and -0.156 ($p<.05$) for conventional and Islamic mutual funds respectively. The moderating effect of CG in more evident in conventional mutual funds as compare to the Islamic mutual funds.

7.2 Discussion and Conclusion

The growth of mutual funds over the past decade has been phenomenal, not only in Pakistan but globally as well. Mutual funds are an attractive investment vehicle for investors due to their high diversification and return. When assessing exposure, investors evaluate various aspects of mutual funds; liquidity is an essential factor. In addition, the social investing agenda became a prominent aspect of the modern world. In the investment world, socially responsible investing has become a prominent characteristic. CSR is an intangible asset that takes years to develop and may be considered a competitive advantage (Chang et al., 2018). This paper discusses the significance of CSR and how it influences the manager's capabilities in social investing and, consequently, the firms' incentives to increase their liquidity. The study also shed light how the CG index can strengthen effect of CSR on liquidity. The firms seek to profit by legitimizing practical actions for all stockholders. Mutual funds that believe social investing benefits society from a legitimacy standpoint will offer their investors greater liquidity. Numerous studies indicate that businesses engage in CSR activities to meet societal expectations (Campbell et al., 2003; Farache & Perks, 2010; Nikolaeva & Bicho, 2011; Koh et al., 2023). Society expects businesses to engage in various desirable behaviors, such as protecting the environment, assisting the community, caring for their consumers and employees, and protecting the interests of their investors by providing more liquidity. Understanding corporate social responsibility's impact on mutual funds' liquidity is crucial. The disposition of the investor toward social investment (corporate social responsibility). The perception of socially responsible investing will result in elevated liquidity. On the other side the agency theory dictates that the managers at the mutual funds should put their effort to protect the investor’s rights. The investors demand high liquidity, this is a prime concern of the manager to provide liquid investment. Our findings indicate that mutual funds invest in companies that practice corporate social responsibility and, as a consequence, provide more liquidity. The study also proved that the CG index has the ability to strengthen the relationship between CSR and liquidity. If company follow the CSR practices along with the good improved corporate governance, this will improve the liquidity.

Investors are extremely discerning regarding the liquidity of the financial assets in which they invest. To satisfy the needs of their investors, mutual funds strive to provide liquidity. Liquidity is a

crucial characteristic of mutual funds (Vidal, 2012; Ma et al., 2020; Chernenko & Doan, 2022; Bagattini et al., 2020). This study aimed to determine the effect of CSR on the mutual fund's liquidity. Results indicate that CSR participation increases the liquidity of mutual funds. This study holds significant implications for regulatory bodies, policymakers, and investors involved in the mutual fund industry in Pakistan. In the specific context of Pakistan, where ownership is characterized by a high degree of concentration, corporations engage in corporate social responsibility (CSR) initiatives as a means to establish legitimacy and cultivate positive relationships with their stakeholders. In the realm of mutual funds, the liquidity can be enhanced by asset managers through the implementation of a heightened level of corporate social responsibility (CSR) initiatives along with the improved corporate governance. Investing in corporate social responsibility (CSR) initiatives can enhance the public perception and reputation of funds within society.

This can be achieved by attracting potential investors who prioritize the liquidity when considering investment opportunities in mutual funds. Furthermore, it is imperative for fund managers who prioritize social responsibility to actively promote and enforce robust corporate governance practices. This is crucial as it enhances the connection between corporate social responsibility (CSR) and the liquidity assurance in mutual funds. This research additionally provides valuable information for regulators and policymakers, highlighting the significance of corporate social responsibility and corporate governance excellence in relation to achieving superior fund performance and increased liquidity. The implementation of corporate social responsibility (CSR) has the potential to increase liquidity for funds. Therefore, regulatory authorities should prioritize the enforcement of mandated social responsibility practices within asset management firms. Similar to the corporate governance code in Pakistan, it is imperative for regulatory bodies to establish a code of social responsibility. This code would serve to assist asset management firms in augmenting their liquidity.

One limitation of the study is its lack of generalizability to other industrialized economies due to its focus on a specific country. An additional constraint of this study is the inability to incorporate data from recent years due to the unavailability of corporate social responsibility (CSR) data for those years and the labor-intensive process of manually analyzing the content for the CSR disclosure index. Future research could potentially solve this issue by incorporating up-to-date data and investigating the correlation between corporate social responsibility (CSR) performance and liquidity of mutual funds within a cross-country framework. This approach would enable the findings of the study to be applied more broadly.

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