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# Ownership Structure, Corporate Governance and Retained Free Cash Flows: An Empirical Study of Listed Shariah-Compliant Enterprises

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**Abstract**
The study investigates the relationship between retained free cash flows in sharia-compliant firms and its ownership structure. A sample of 65 firms, consistently part of sharia index from 2011 to 2020 is analyzed for this study to assess the impact of ownership structure on retained cash flows in sharia-compliant firms. The proxies used in the study for ownership concentration are the combined ownership of the largest 03 shareholders and the combined diffused shareholding of shareholders having < 1% stake in the companies. The study employs two proxies for ownership concentration: the combined ownership of the largest three shareholders and the aggregate of shareholders with less than a 1% stake (diffused ownership). Additionally, ownership mix is examined through executive director's shareholding, institutional and retail shareholding, shareholding by mutual funds, and the shareholding by independent non-executive directors in these sharia-compliant companies. Using panel data and the system Generalized Method of Moments (GMM) technique for regression analysis in STATA, the results indicate a statistically significant relationship between ownership structure and retained free cash flows. Ownership concentration, managerial ownership, mutual fund ownership, and institutional ownership are positively associated with higher levels of retained free cash flows. In contrast, diffused ownership exhibits a negative relationship with cash retention. The findings highlight the influential role of different ownership structures in shaping the financial behavior of Sharia-compliant firms, particularly in the context of retained free cash flows.
**Keywords:** retained free cash flows, ownership mix, ownership concentration, agency theory, Sharia complaint firms, generalized method of moments.

## 1. Introduction

Islamic finance roots back to the 14th century when all base laws were provided by Prophet Muhammad (PBUH) and Quranic verses that defined Islamic financial transactions along with business norms and ethics. The scripture from Quran and Hadith provides that Islamic financial products are divided into two categories, sharia-based and sharia-compliant products. Sharia-based products were being practiced or were introduced during the life of the Holy Prophet (PBUH). Whereas, sharia-compliant products were introduced only recently as alternatives to conventional products to fulfill the needs of ever-changing market demands (Naim, 2010). Sharia indices include only those firms which have passed all the requisites of sharia screening processes, enabling the firm to stand clear of any operations or cash flows that violate provided Sharia-rules of business. The current analysis investigates these sharia-compliant firms

by analyzing multilevel free cash flows of these firms under different ownership structures. In contrast to advanced nations with sturdy corporate governance, evolving nations have a weak corporate governance framework, thereby delivering inadequate control on management's decisions. Firms having more control rights than cash flow rights always have agency problems. (Porta, Lopez-de-Silanes & Shleifer, 1999; Lins, 2003).

In the scenario of excessively concentrated ownership, the rights of minority shareholders might be in jeopardy as the major shareholders have more control over decisions and funds (Lins, 2003). The shareholders that are fewer in number but have concentrated stockholding can influence the firm for personal gains (Gomes, 2000) and thus firms with more concentrated shareholding are always harmful to minority shareholders (Shleifer & Vishny, 1986). As per Ducassy and Guyot (2017), there are conflicting concerns among small and controlling shareholders in countries that fail to safeguard stockholder's rights. Claessens, Djankov, and Lang (2002) inferred the same about shareholders under diminished protection for shareholder rights. Sharia-compliant firms have specified debt and liquidity thresholds, where both debt and liquidity cannot exceed certain benchmarks. As these sharia-compliant firms are usually low on leverage, debt cannot be effectively used here as the controlling tool for agency problems and only improved/good governance structure can be the decisive tool for owners/managers.

Studies have shown good corporate governance as an effective substitute for debt to control agency problems in firms (La Porta, et al, 2000; Hu & Kumar, 2004; Hoberg & Prabhala, 2008). If a firm has a good governance system, the debt of the firm is usually low, and vice versa. The debt of sharia-compliant firms is already low so the firms should focus on improving corporate governance to mitigate agency costs (Anwer, Azmi & Mohamad, 2020). Anwer, et al. (2021) studied dividend payout behavior of sharia-compliant firms of Dow Jones sharia-index. Sharia-compliant firms cannot use debt as the control tool for agency problems as these firms cannot issue debt above a certain threshold. The only way for these firms is to either, improve corporate governance or to payout dividends to reduce available free cash flows within these sharia-compliant index listed firms. The authors also discussed that if a sharia-compliant firm has lower growth opportunities but high profits, there is more probability of paying dividends by these firms in order to dispense off extra cash from the firm. Let's discuss the theoretical background for current study and its alignment with future prospects of findings specifically for ever growing niche of constituents of sharia indices.

**Agency Theory and Free Cash Flows:** Agency theory defines the relationship of principal and agent in the context of firms as described by Jensen and Meckling (1976) and further elaborated by Jensen (1986). The agency theory explains the relationship as a contract

where one or more legal entities (*Principals*) appoint one or more legal entities (*Agents*) to perform certain predefined chores with the delegation of authority to perform those chores. Agency theory suggests that if both principal and agent are self-utility maximizers, there will be a conflict of interest among parties causing deviation from agreed actions in these sharia-compliant firms giving rise to *Agency Problems*. To assure the assigned agent is performing according to required conduct, some monitoring and control mechanisms need to be implemented by the principal and usually bear some costs to the principal (*Agency Costs*). These mechanisms are designed to minimize agency problems within these firms. The agency problems are witnessed more in firms having high levels of free cash flows at the disposal of management and investment inefficiency arises due to either over or under investment by management of firms. Jensen (1986) defined free cash flows as excess cash with firm after investing in all positive net present value (NPV) projects and explained that management prefer to overinvest in non-profitable ventures when they have higher free cash flows rather than directing benefit to the shareholders of firms. Availability of excess cash in the form of free cash flows escalates this self-interest and results in mismanagement of resources.

**Free Cash Flow hypothesis:** Free cash flow hypothesis (Jensen, 1986; 1993) is an extension of agency theory. Jensen (1986) discussed firms having retained cash flows face more agency problems under asymmetrical information. He argues that owners tend to minimize retained cash flows by either announcing more dividend payouts or by issuing debt so that investments in negative NPV ventures are reduced. The theory argues that higher retained cash flows cause self-interested managers to expropriate rights of owners and thus damage values of the firms (i.e. sharia-compliant firms). The theory also discusses that payouts by firms increases a firm's value and lower payouts decrease value of the firm. Strategically, a firm might retain higher cash and not announce dividends during time of increased uncertainty in the market. The role of internal funds/retained earnings is vital in future funding of projects as it bears lesser costs in comparison to cost of external funds. Hence, Jensen's theory suggests that external funds are costlier and riskier than internal funds. However, external funds bear costs that can be monitored and help diminish internal retained cash flows (in the form of repayments and interest payments) to minimize agency problems of the firm. This theory is important to sharia-compliant firms as Jensen explains the role of free cash flows in owner and manager relationships which also holds true in these firms.

**Precautionary Motive to Hold Cash:** The precautionary motive to hold cash by firms as given by John Maynard Keynes (1936) provides the key reasons by firms to hold cash. According to Keynes, there are three major motives for firms to hold cash and these are 1) the Motive to minimize transaction costs, 2) the speculative motive for interest rate and supply/demand in the economy and lastly 3) the

motive to hold cash as a precautionary measure against uncontrollable/unforeseen circumstances. The precautionary motive refers to the desire to hold cash or liquid assets, safeguarding against unexpected events or uncertainties that could arise demanding immediate expenditure. The author further argues that individuals and small firms carry extra cash to help them buffer against any immediate needs. The same principle applies to corporates as well. Keynes also concluded that, liquid assets as form of cash, are also maintained by firms for emergency needs and can be used to extend liquidity, providing cushion against sudden economic or regulatory change. In general, the author of theory explains that firms prefer to hold cash with them regardless of any immediate needs which leads to liquidity trap for such companies resulting in excessive cash holdings with few spending avenues. This theory remains relevant in modern economic studies as well, particularly in understanding firms with liquidity concerns.

**Asymmetric Information Theory:** The concept of asymmetric information, pioneered by George Akerlof in the 1970s, has a profound impact on our understanding of how markets function. Akerlof's work demonstrated how information disparities between buyers and sellers can lead to market inefficiencies and even market failure. He illustrates this concept using the used car market as an example (Dari-Mattiacci, Onderstal & Parisi, 2021). In this market, sellers have more intimate knowledge about the quality of the cars they are selling, while buyers can only rely on average market statistics to assess the value of a vehicle. As a result, buyers are unable to distinguish high-quality "peaches" from low-quality "lemons," leading them to offer a price that reflects the average quality. This, in turn, discourages owners of high-quality cars from selling, as they are unwilling to accept the depressed prices, leaving the market dominated by low-quality vehicles. This information asymmetry can lead to adverse selection, where investors are unable to distinguish high-quality securities from low-quality, where financial institutions may take excessive risks, knowing that the information in market is always limited and there are no such thing as perfect markets. The same implications are extended towards the decision making by owners and management of the sharia-compliant index listed firms. Management of the firm has access to inside information and are well equipped to make efficient decisions. Conversely, the same management also has the advantage of misleading the owners towards obtaining unjustified fundings in projects that bolster personal gains over company benefits, leading to escalation in retained cash flows and subsequently towards the agency problems.

The current paper focuses on sharia-compliant firms in Malaysia and Pakistan as a representative sample for such sharia-index listed companies. The availability of sharia index’s constituent data since 2000 onwards and index regulations from the 1960s were the decisive criteria to choose Malaysian firms. For Pakistan, the constituent data was available for the latest year only, while the index of

KMI-30 was formulated in 2009 with a base year in 2008. The index of KMI All stocks was formulated later with a base year in 2014 and could not be used as a sample for study.

**2. Literature Review**

As discussed in previous section, the agents are able to take personal benefits from free cash flows of firm and have motive to overinvest in order to take maximum perquisites from ventures. Theory suggests to provide incentives for aligning agent-principal motives and one of these incentives are ownership in the firm. As per previous literature, the ownership structure can influence level of free cash flows either positively or negatively, contributing towards funds' utilization. From an agency perspective, external funds may not be too expensive but internal funds (free cash flows) may be too inexpensive from manager's perspective (Jensen, 1986). Insider ownership concentration reduces liquidity constraints induced through agency costs. However, high insider shareholding concentration increases liquidity constraints in case of asymmetric information (Setayesh & Salehinia, 2015), rendering the insiders with added advantage.

Nekhili, Wali and Chebbi (2009) reveal that ownership concentration increases agency costs of free cash flows in case of French firms. Chen and Yur-Austin (2007) examined large public firms during 1996 until 2001 where they evaluated effectiveness of large shareholders in minimizing agency costs. Results of their study reveal that, inner shareholding is efficient in asset utilization, whereas outside shareholding can also be helpful to diminish extra expenses of the management. Managerial shareholders can improve under-investment problem of managers as management have a dual role and invested incentive in the firm. Florackis, Kostakis and Ozkan (2009) while working on UK listed companies, reveal that a firm has different agency problems related to whether that firm has any growth opportunities or not. Furthermore, results reveal that having managerial ownership can be more effective in high growth organizations as they have more opportunities to invest in projects as compared to low growth firms. Thus, having higher managerial ownership can minimize agency problems arising from higher free cash flows in firms, up to a threshold of 15% only (Florackis, Kostakis and Ozkan (2009), after which the relation is reversed. A positive relation of higher managerial ownership and free cash flows in the firm establishes, where there are more funds left at disposal of management (Ben Moussa & Chichti, 2012).

Institutional ownership and outside corporate investors are better equipped to monitor market and evaluate internal projects (Aggarwal, 2011). In order to minimize internal leakage of funds, these investors candidly invest in profitable projects only and later on monitor the same for any diversions. Institutional investors tend to utilize maximum of free cash available in order to leave no or less

room for over-investment in non-profitable projects. Jensen (1986) suggests that institutional ownership and free cash flows in firms have an inverse relationship. Furthermore, study by Ben Moussa and Chichti (2012) shows no relationship of institutional investors and level of free cash flows in these firms. Harford, et al., (2008) infers that a firm having high free cash flows and insufficient governance control ends up with making excessive over investments in projects. Soet, Muturi and Oluoch (2018), while working on firms in Kenya, reveals that high operating cash flows (free cash flows) in asset managers increases the financial performance of these firms. The above discussion is in contradiction to findings by Mong'o (2010) along with findings by free cash flow and agency theory, which states that there is a negative relationship of free cash flows with performance of firm.

Non-executive directors are classified as all the outside directors having no managerial role in the firm. The purpose of inclusion of non-executive directors in the board is to minimize agency issues and have more control over the decision power of the management (Fama, 1983; Jensen, 1993). Ntim (2011) in his study reveals that there is a positive but insignificant relationship of non-executive directors with a firm's valuation. However, the author also reveals that there is a positive and significant relationship of independent non-executive directors and the firm's value supporting the Anglo-American orthodoxy promoting outside independent directors as good monitors. Klein (2002) suggests that the agency problems can be mitigated by the inclusion of non-executive directors in the firm and thus their presence positively affects a firm's performance by minimizing free cash flows. Taghavi, Valahzaghard and Amirjahadi (2014) suggests a direct relationship of non-executive directors with the overinvestment of the firm. Another study suggests that independent directors invest more energy and vigilance into monitoring of firms and their credibility as independent directors of the firm (Abbott, Parker & Peters, 2004).

**Problem Statement:** The previous literature is negligence towards the sharia-compliant index listed firms in terms of conventional theories and there is negligible theories available for sharia screened firms and their behavior in accordance to previously explored literature on conventional firms only. Sharia-compliant firms pass through rigorous screening process and has to maintain processes and measures under a strict range in order to have sharia-compliance certification. However, these firms are different from the conventional firms in the market as could be seen during the recession of 2008 and the covid-19 depression. The ability of these proliferating firms to sustain businesses provide them with a unique niche that should be studied carefully as these firms might not be following conventionally accepted theories. Their resilience could be a benchmark for other firms in the market in order to sustain and grow their businesses while assuring economic shocks could be buffed down through sharia-screening processes.

The multilevel free cash flows in sharia-compliant firms decide for over or under investment of resources as per previous theory. There is already a limit on debt issuance capacity of sharia-compliant firms along with income from interest-based lending. Thus, the controlling and monitoring layer provided by creditors is diminished in case of sharia-compliant firms. Low debt characteristic of sharia-compliant firms already provides pressure on owners and managers to perform better in the market. There are scant investment opportunities in the market for sharia-compliance and with limited avenues for investments, there is probability of higher proportion of free cash availability in these firms. The above argument provides that sharia-compliant firms are different from other firms in the market and response differently to market information.

**Research Gap:** Extensive research is warranted on sharia-compliant firms, given their remarkable resilience during the global recession of 2008 and the COVID-19 outbreak in 2020, setting them apart from other market entities. For that reason, there is an immediate need in research to analyze these sharia-index listed firms for our existing theories along with devising new theories specific for this niche of firms which lack a major focus from researchers in the past. The issuance of dividends or investment in new projects remains the primary mechanism for controlling agency problems associated with free cash flows in sharia-compliant firms. However, the governance structure of these firms plays a crucial role in monitoring management decisions, particularly in non-financial firms which lack Sharia board with in their governance structure. To my knowledge, no study has been undertaken to assess the impact of ownership structure on free cash flows in sharia-compliant corporations in Malaysian and Pakistani markets and their comparison in behavior.

**Significance and Rationale of Study:** The current paper examines the effect of ownership structure on free cash flows available in specifically sharia-compliant firms. High free cash flows in these sharia-compliant firms cause a conflict of interest among management and owners, leading to agency problems and investment inefficiencies, for which the owners tend to increase agency costs in order to mitigate agency problems. However, ownership structure can also determine the preferences of owners towards level of free cash flows and investment behavior in these sharia compliant firms through spending-freedom of managers. The study contributes to literature through a bibliometric effort, providing rationale of available levels of free cash flow levels in such firms and efficient investment decisions under different ownership structures of sharia-compliant firms. The current research benefits the literature through identification of differing behavior of sharia-compliant firms towards conventional theories, while providing literature on preferences of management and owners, separated by geographical groups as well.

**Research Objective and Question:** The objective of the study is;

To find out effect of ownership structure (ownership concentration, diffused ownership, managerial ownership, retail ownership, foreign ownership, mutual funds ownership, institutional ownership and independent non-executive director's ownership) on free cash flows in sharia compliant firms of Malaysia and Pakistan.

While the research question devised is;

What is effect of ownership structure (ownership concentration, diffused ownership, managerial ownership, retail ownership, foreign ownership, mutual funds ownership, institutional ownership and independent non-executive director's ownership) on free cash flows in sharia compliant firms of Malaysia and Pakistan?

**Hypotheses of the Study:** The study uses a total of two ownership-concentration variables and five ownership-mix variables. Gürsoy and Aydoğan (2002) used ownership concentration proxies of top 1 shareholder, top 3 shareholders, other ownership as diffused shareholding and cash flow rights ownership in their study. Top 1 ownership and top 3 ownership are positively linked with free cash flows as more shareholding control is provided to owners. The diffused ownership in firms is the cumulative percentage where ownership is less than 1%. As percentage of diffuse ownership increases, there is less control over firm by large shareholders. Following hypotheses are devised:

$H_1$: Total Percentage ownership of largest three shareholders has a significant positive relationship with free cash flows in sharia compliant firms.

$H_2$: Total Percentage ownership of diffused shareholders has a significant negative relationship with free cash flows in sharia compliant firms.

Managerial ownership shows a non-linear relationship having a negative relationship with free cash flows in lower shareholdings and later turning to a positive relationship with more free cash flows at their disposal (Florackis, Kostakis & Ozkan, 2009). Ben Moussa and Chichti (2012) also revealed a positive relationship of free cash flows with managerial ownership, devising the following hypothesis:

$H_3$: Managerial ownership has a significant and positive effect on free cash flows in sharia compliant firms.

Jensen (1986) suggested that institutional ownership and free cash flows in firms have an inverse relationship due to increase in monitoring control over the firm, while investing free cash flows to minimize agency cost as a tool for control. Herdinata (2015) provided a very unique analysis stating that in companies with high investment opportunities, the relationship of institutional

ownership and availability of free cash flows is negative as in contrast to previous studies and theories. Following hypothesis is devised:

$H_4$: Institutional ownership has a significant negative impact on free cash flows in sharia compliant firms.

Soet, Muturi and Oluoch (2018) while working on firms in Kenya, revealed high operating cash flows (free cash flows) in mutual funds. Following Wells, Cox and Gaver (1995), indicating that management of mutual funds do maintain larger free cash flows in firms as compared to management of insurance firms. This implies following hypothesis:

$H_5$: Mutual fund ownership has a significant and positive impact on free cash flows in sharia compliant firms.

Klein (2002) and Bukit and Iskandar (2009) suggested that agency problems can be mitigated by inclusion of non-executive directors in firms and their presence positively affects a firm's performance by minimizing free cash flows. Taghavi, Valahzaghard and Amirjahadi (2014) revealed a direct relationship of non-executive directors with overinvestment in firms. Following hypothesis is formulated:

$H_6$: Independent non-executive directors ownership has a significant and negative impact on free cash flows in sharia compliant firms.

**3. Research Methodology**

The research philosophy (epistemology) of the study is *positivism* as introduced by French sociologist Auguste Comte (1830) that places an emphasis on scientific, objective knowledge, and observable events, centered-on experience and search for regularities or laws applicable to management sciences. Accordingly, the investigation leverages *ontology* of the study through deductive research strategy which implies evaluation of framework or hypothesis via data evidences. Ontology refers to the study of the nature of being, existence, or reality. A deductive approach is followed by using theoretical arguments based on existing phenomena and testing hypotheses. This approach describes the causal relationship between variables, testing hypotheses and generalizing the regularities (Saunders, et al., 2009). The empirical research design in current study employs a quantitative process which provides statistical and systematic measurement of data, giving structure by testing hypotheses to generalize conclusions. The study adopts this approach with the hope of gaining valid and impartial insights into research results.

Pearson correlation analysis is used to look for potential correlations between the continuous variables. Empirical results of the study are validated by two-step system generalized method of moments (GMM) technique with panel data analysis, which is able to solve endogeneity and heteroskedasticity problems in time-series cross-sectional data. The inclusion of multidimensional tests demonstrates aggressive analytic approach, making the study more robust for high-quality inferences. The study conducted rigorous tests to assess

the assumptions underlying the models and the tests being applied, including evaluating the extent to which the models needed to be adjusted to remain valid. The research process pays special attention to issues such as multicollinearity and endogeneity, which could compromise the integrity of the findings. This holistic approach significantly enhances the reliability and validity of the research under discussion, ensuring the reconfirmation of results with a high level of confidence.

**Target Population** is all non-financial sharia-compliant firms. For **sample of the study,** non-financial sharia-compliant firms were chosen that are listed on sharia-compliant indices available in Bursa Malaysia Stock Exchange and Pakistan's Karachi Meezan Index 30 (KMI 30). Additionally, the sample is included in sharia-compliance index throughout the sample period of the study. The **sampling technique** is stratified and convenience sampling is employed, where availability of data for above-mentioned variables is the deciding criteria and all the sample need to be non-financial firms only. **Study Period** was 10 years starting from May 2011 to May 2021 to make sample as uniform and generalizable as possible, while periods of economic shocks during mortgage boom and Covid-19 outburst are excluded. In order to compensate for lagged variables 02 additional years data for 2009 and 2010 were taken for mentioned sample. Financial firms like insurance firms and banks are under special financial regulations and are differently affected from external factors (Rajan & Zingales, 1995). Only secondary data is used for the study, utilizing only the balanced data tests. The finance database, annual reports of firms and stock exchange filings are the main sources used to collect data.

*Malaysia* is considered for this study because of separate sharia stock index and availability of data for at least 10 years per firm. Besides having a separate index, another criterion for choosing this country was the availability of regulations of sharia compliance in last 10 years so that firms have been following sharia compliance regulations during the entire study period. *Pakistan* is considered for second index in this study due to criterion of availability and existence of index since past ten years. Pakistan's KMI-30 index exists since 2008 and thus data of companies included in this index is available. KMI-ALL index is created later and has base year in 2014 which does not meet the ten years criteria. KMI-30 index comprises only 30 companies and these 30 companies are comparable with selected companies of Bursa Malaysia Islamic Index.

**4. Measurement of Variables**

To measure free cash flows in sharia-compliant firms, the study uses retained or surplus cash flows as a proxy of free cash flows. Calculation of retained free cash flows is given as follows:

$$RCF_{i,t} = \frac{NOBDA_{i,t} - TAX_{i,t} - INT_{i,t} - TDP_{i,t}}{TA_{i,t-1}} \quad \ldots\ldots\ldots \text{Equation (1)}$$

In which, $RCF_{i,t}$ is the retained free cash flow of Company, $NOBDA_{i,t}$ is the net operating income before depreciation and amortization of company, $TAX_{i,t}$ is the total tax payment of company, $INT_{i,t}$ is the interest expense of the company, $TDP_{i,t}$ is the total dividend paid by company and $TA_{i,t-1}$ is the total assets of company before year *t.* Ten independent variables were utilized in the current study as proxies for both the ownership concentration and the ownership mix. Ownership concentration is distribution of shares owned by a certain number of individuals, institutions or families. Two measures of ownership concentration are identified for current research: i) LSH3 – Combined ownership of first three largest shareholders of firm ii) OTHER – Combined ownership of shares owned by dispersed shareholders whose shares are less than 1%. Following ownership-mix variables are chosen for the study, defined by the percentage ownership of shareholders as identified by their unique features and calculated as follows in equation (2): managerial ownership, institutional ownership, mutual funds ownership, retail ownership, independent non-executive director's ownership.

$$Percentage\ Ownership = \frac{Total\ shares\ owned\ by\ investor}{Total\ shares\ outstanding\ of\ firm}\ X\ 100 \quad \ldots\ldots\ldots \text{Equation (2)}$$

Listed age of the firm in stock index, stock momentum of the firm in last 12 months, growth, return on assets, size of firm, size of board, number of committees on board and number of board meetings were used as control variables in this study. Appendix attached provides the list for variable details for the study.

**Data Analysis:** Secondary data is processed using statistical packages of STATA. Preliminary measures are conducted before hypotheses testing to assure sanctity of data quality. The study applies panel data analysis (cross sectional time series data) for relationship analysis of dependent and independent variables. The study uses system generalized method of moments (GMM) technique. Panel data analysis has many advantageous over time series and cross-sectional data as per Baltagi (1995). The Arellano-Bond test, designed to detect autocorrelation in the residuals of a dynamic panel model, indicates whether the instruments used in the GMM estimation are valid. If the p-value for the AR (2) test is high (greater than 0.05), the results suggest no second order autocorrelation, which means the instruments are valid, and the model is correctly specified. The overidentification test, the Hansen J test, also known as the Hansen test of overidentifying restrictions, is a statistical test used in the context of generalized method of moments (GMM) estimation to assess the validity of the instruments used in the model. Two-step estimation is preferred as it uses the optimal weighting matrix derived from the first-step residuals, allowing for heteroskedasticity, is more efficient, especially in large samples and in the presence of

heteroskedasticity. The data span from 2011 to 2020 (10 years) while, the number of groups/companies in the study comprised of 99 in total. However, the data is refined by removing missing data years and outliers. The resultant highly balanced data sample size stands at a total of 65 companies. The restrictions to sample selection are numerous and comprise of: 1) all the companies must remain sharia compliant throughout the span of study, 2) all the data rows should be available for every year in order to have a balanced data and 3) the sales figures should be non-zero or non-empty during the period as to measure the sale growth rates effectively.

**5. Results & Discussion**

During the study, normality assumption is held valid as per central limit theorem for increased sample sizes (Rice & Rice, 2007; Hsiao, 2022). The theorem states that in terms of panel data, the dimensions for both time *T* and companies *N* are simultaneously measured. If $N > 30$ or $T > 30$ then the central limit theorem suggests that the residuals are approximately normally distributed. In current study, the $N = 65$ and the $T = 10$ while the panel is strongly balanced which provides strength to the model and data validity. The Wooldridge test for autocorrelation in panel data returns prob > F = 0.0588, which fails to reject the null hypothesis of no first order serial correlation. Following table 1 provides the descriptives statistics of variables used in the model.

**Table 1 Descriptive Statistics for Malaysian Firms**

| Variables | Observations | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| VAR_Y | 650 | 2,016 | 3 | 2011 | 2020 |
| VAR_C | 650 | 33 | 19 | 1 | 65 |
| VAR_Ind | 650 | 5 | 2 | 1 | 8 |
| RCF | 650 | 0.08151 | 0.16586 | -0.64507 | 1.57415 |
| LSH3 | 650 | 42.88 | 17.27 | 4.34 | 88.54 |
| OTHER | 650 | 37.05 | 14.39 | 6.06 | 95.66 |
| MANOWN | 650 | 11.09 | 16.04 | 0.00 | 65.77 |
| INOWN | 650 | 70.84 | 29.36 | 2.24 | 100.00 |
| RETOWN | 650 | 28.60 | 28.69 | 0.00 | 96.49 |
| MFOWN | 650 | 5.66 | 10.55 | 0.00 | 63.72 |

| | | | | | |
|---|---|---|---|---|---|
| INEXOWN | 650 | 0.42 | 1.98 | 0.00 | 41.73 |
| AGE | 650 | 17 | 11 | 2 | 53 |
| ROA | 650 | 0.21078 | 0.27326 | 0.00000 | 1.32637 |
| MOM12M | 650 | 0.20618 | 0.65617 | -0.71150 | 4.84160 |
| BSIZE | 650 | 7 | 2 | 2 | 14 |
| BCOMM | 650 | 3 | 1 | 1 | 7 |
| BMEET | 650 | 6 | 2 | 2 | 19 |

Where, VAR_Y is the year of observation, VAR_C is the identifier for company under sample, VAR_Ind is the identifier for industry of company, RCF is the retained free cash flows at time t, LSH3 is the largest 03 stock Owners of the company, OTHER is the dispersed ownership having < 1% shares, MANOWN is the executive director's ownership in company, INOWN is the institutional ownership in the company, RETOWN is the retail ownership of in the company, MFOWN is the ownership of mutual funds in the company, INEXOWN is the independent nonexecutive director's ownership in the company, AGE is the listing age of the company, ROA is the return on assets of the company, MOM12M is the 12 months stock momentum of company, BSIZE is the size of the board of directors in the company, BCOMM is the number of committees of the board, BMEET is the number of meetings held by the board of directors. In terms of multicollinearity, the literature suggests VIF factors of below 05 and conditional index of below 30 as acceptable ranges. The tests in STATA for collinearity diagnostics are carried out with multivariate analysis and multicollinearity issues are within acceptable range as given in table 2 (RETOWN is eliminated as RETOWN is reciprocal of INOWN and few control variables are dropped as well).

**Table 2 Test Results for Multicollinearity for Malaysian Firms**

| Variable | VIF | SQRT VIF | Tolerance | R-Squared | | Eigenvalue | Conditional Index |
|---|---|---|---|---|---|---|---|
| LSH3 | 2.21 | 1.49 | 0.4531 | 0.5469 | 1 | 7.3484 | 1.0000 |
| OTHER | 2.07 | 1.41 | 0.4836 | 0.5164 | 2 | 1.1862 | 2.4890 |
| MANOWN | 1.72 | 1.31 | 0.5807 | 0.4193 | 3 | 0.9364 | 2.8013 |
| INOWN | 1.78 | 1.33 | 0.5621 | 0.4379 | 4 | 0.7598 | 3.1098 |
| MFOWN | 1.48 | 1.21 | 0.6775 | 0.3225 | 5 | 0.6159 | 3.4541 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| INEXOWN | 1.01 | 1.00 | 0.9902 | 0.0098 | 6 | 0.5067 | 3.8082 |
| MOM12M | 1.05 | 1.02 | 0.9555 | 0.0445 | 7 | 0.2240 | 5.7279 |
| AGE | 1.44 | 1.20 | 0.6966 | 0.3034 | 8 | 0.1851 | 6.3014 |
| ROA | 1.08 | 1.04 | 0.9301 | 0.0699 | 9 | 0.0950 | 8.7938 |
| BMEET | 1.26 | 1.12 | 0.7952 | 0.2048 | 10 | 0.0802 | 9.5696 |
| BCOMM | 1.27 | 1.13 | 0.7860 | 0.2140 | 11 | 0.0520 | 11.8841 |
| Mean VIF | 1.49 | | | | 12 | 0.0102 | 26.8070 |
| Eigenvalues & Cond Index computed from scaled raw sscp (w/ intercept). Det (correlation matrix) 0.1241 | | | | | | Condition Number | 26.8070 |

GMM estimation model under equation 3 is given below, where, $DV_{i,t}$ is the retained free cash flows of company *i* at year *t*, $IV_{i,t}$ is the ownership structure regressor, $C_{i,t}$ is a vector of control variables, $\delta_i$ and $\mu_t$ denote sets of industry dummies and time effects and $\varepsilon_{i,t}$ is the error term with E($\varepsilon_{i,t}$) = 0 for all *i* and *t*.

$$DV_{i,t} = \beta_0 + \alpha DV_{i,t-k} + \beta_i IV_{i,t} + \gamma_0 C_{i,t} + \delta_i + \mu_t + \varepsilon_{i,t} \text{ ..... } \textit{Equation (3)}$$

For the purpose of comparison of Malaysian sharia-compliant index listed firms with Pakistan's sharia compliant firms, Karachi Meezan Index (KMI-30) as given by Meezan Bank in 2008 is utilized. The companies selected from Pakistani index comprises of 30 in total. However, in order to make sure all firms are sharia-compliant throughout the study span, few firms were dropped and for companies where availability of any annual reports during the period of 2009 to 2020 was not possible. The study after refinement of balanced data, used 25 companies in total having balanced data from 2011 to 2020. Following table 3 provides the descriptives for Pakistani companies under study:

**Table 3 Descriptive Statistics for Pakistan's Firms**

| Variables | Observations | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| VAR_Y | 250 | 2015.5 | 2.87804 | 2011 | 2020 |
| VAR_C | 250 | 13 | 7.22557 | 1 | 25 |
| LSH1 | 250 | 37.4198 | 21.6867 | 7.0516 | 78 |

| | | | | | |
|---|---|---|---|---|---|
| LSH3 | 250 | 53.7808 | 22.0222 | 18.9181 | 94.34 |
| OTHER | 250 | 26.0311 | 12.3983 | 1.28 | 48.48 |
| MANOWN | 250 | 8.05566 | 15.5575 | 0 | 62.51 |
| INOWN | 250 | 74.6521 | 16.9959 | 10.51 | 97.26 |
| RETOWN | 250 | 25.3479 | 16.9959 | 2.74 | 89.49 |
| MFOWN | 250 | 5.45515 | 4.93238 | 0 | 24.06 |
| AGE | 250 | 35.84 | 17.8068 | 7 | 72 |
| MOM12M | 250 | 0.234198 | 0.724815 | -0.7554 | 6.1495 |
| ROA | 250 | 1.00947 | 0.762685 | 0.147236 | 5.76986 |
| RCF | 250 | 0.134512 | 0.140417 | -0.15988 | 0.653145 |
| BSIZE | 250 | 10.42 | 3.36346 | 5 | 24 |
| BCOMM | 250 | 2.82 | 1.30322 | 1 | 8 |
| BMEET | 250 | 6.74 | 3.64604 | 4 | 24 |

The Wooldridge Test for autocorrelation in panel data returns the prob > F = 0.4834, which fails to reject the null hypothesis of no first order serial correlation. There ae no normality issues as well as per the central tendency theorem suggesting that the observations more than 200 are assumed for normality of results. Graphical analysis like the q-q charts and histograms are also used in the study to verify the normality assumptions. Furthermore, the multicollinearity diagnostics are also run to verify for any collinearity issues for which the results are given in below table 4. The results of diagnostics provides that the VIF factors are well under threshold of 05 and the condition index at approximately 30.

**Table 4 Multicollinearity Analysis for Pakistan's Firms**

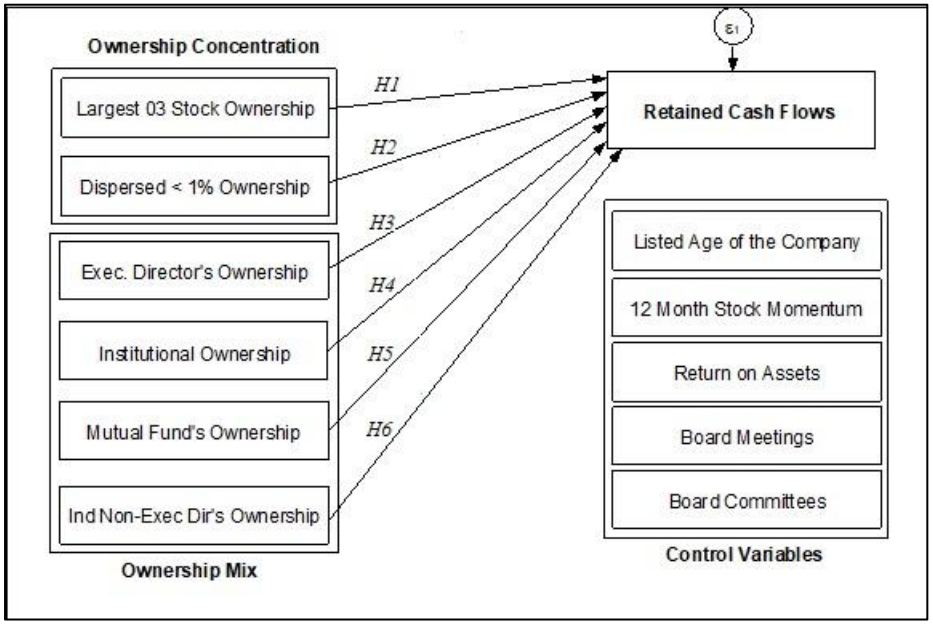
| Variable | VIF | SQRT VIF | Tolerance | R-Squared | | Eigenvalue | Conditional Index |
|---|---|---|---|---|---|---|---|
| LSH3 | 3.70 | 1.92 | 0.2700 | 0.7300 | 1 | 7.7954 | 1.0000 |
| OTHER | 2.57 | 1.60 | 0.3890 | 0.6110 | 2 | 0.9758 | 2.8264 |
| MANOWN | 1.52 | 1.23 | 0.6562 | 0.3438 | 3 | 0.7821 | 3.1570 |
| INOWN | 1.89 | 1.37 | 0.5295 | 0.4705 | 4 | 0.5021 | 3.9401 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| MFOWN | 1.48 | 1.22 | 0.6752 | 0.3248 | 5 | 0.3694 | 4.5935 |
| AGE | 1.35 | 1.16 | 0.7391 | 0.2609 | 6 | 0.1905 | 6.3974 |
| MOM12M | 1.03 | 1.02 | 0.9663 | 0.0337 | 7 | 0.1740 | 6.6925 |
| ROA | 1.24 | 1.11 | 0.8087 | 0.1913 | 8 | 0.1258 | 7.8708 |
| BSIZE | 1.64 | 1.28 | 0.6081 | 0.3919 | 9 | 0.0577 | 11.6234 |
| BMEET | 1.93 | 1.39 | 0.5193 | 0.4807 | 10 | 0.0185 | 20.5163 |
| Mean VIF | 1.84 | | | | 11 | 0.0085 | 30.2769 |
| Eigenvalues & Cond Index computed from scaled raw sscp (w/ intercept). Det (correlation matrix) 0.0665 | | | | | Condition Number | | 30.2769 |

**Conceptual Framework of the study**

The study uses ownership constructs to find the impact of ownership structure on the free cash flows and controlled by selected control variables. The relationship and direction of impact among constructs can be seen through the conceptual framework figure 1 provided as below.

**Figure 1 Impact of Ownership structure on Retained Cash Flows**




As already discussed, the variables are not widely dispersed and represent the normality assumption keeping in mind the central limit theorem for medium to large data sizes. Correlation matrix for the variables is given in below table 5, depicting medium correlation among the variables which were also visible in the coefficients (slope) for regression equations.

**Table 5 Correlation Diagnostics for Retained Cash Flows for Malaysian Firms**

| Correlation | RCF | L.RCF | L2.RCF | LSH3 | OTHER | MANOWN | INOWN | MFOWN | INEXOWN |
|---|---|---|---|---|---|---|---|---|---|
| $RCF_{i,t}$ | 1 | | | | | | | | |
| $RCF_{i,t-1}$ | 0.374*** | 1 | | | | | | | |
| $RCF_{i,t-2}$ | 0.292*** | 0.342*** | 1 | | | | | | |
| *LSH3* | 0.153*** | 0.140*** | 0.148*** | 1 | | | | | |
| *OTHER* | -0.139*** | -0.116*** | -0.114*** | -0.66*** | 1 | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *MANOWN* | 0.016 | 0.012 | -0.006 | -0.030 | -0.112** | 1 | | | |
| INOWN | 0.063 | 0.072* | 0.050 | 0.065* | -0.115*** | -0.544*** | 1 | | |
| *MFOWN* | 0.109*** | 0.102*** | 0.099*** | 0.202 | -0.206*** | -0.239*** | 0.281*** | 1 | |
| *INEXOWN* | -0.040 | -0.022 | 0.007 | -0.063 | 0.051 | 0.031 | -0.037 | -0.060 | 1 |

*Notes: *, **, *** Significant at 10, 5 and 1 percent levels, respectively*

Following results are obtained using the two-step System GMM in STATA for dynamic data analysis as given under table 6.

**Table 6 Two-Step Sys-GMM for Retained Cash Flows**

| *Dependent Variable Retained Cash Flows* | *SYS-GMM estimation* | |
|---|---|---|
| *Constant* | *-0.0273* | *(0.0384)* |
| $RCF_{i,t-1}$ | *0.0077* | *(0.0295)* |
| $RCF_{i,t-2}$ | *0.0566*** | *(0.0087)* |
| *LSH3* | *0.0084*** | *(0.0003)* |
| *OTHER* | *-0.0001* | *(0.0004)* |
| *MANOWN* | *0.0007*** | *(0.0003)* |
| *INOWN* | *0.0006*** | *(0.0002)* |
| *MFOWN* | *0.0004* | *(0.0002)* |
| *INEXOWN* | *-0.0014* | *(0.0003)* |
| *AGE* | *0.0009*** | *(0.0004)* |
| *ROA* | *0.1268**** | *(0.0169)* |
| *MOM12M* | *0.0036* | *(0.0049)* |
| *BMEET* | *-0.0059*** | *(0.0023)* |
| *BCOMM* | *-0.0001* | *(0.0038)* |
| *No. of Instruments* | *46* | |
| *No. of Observations* | *520* | |

| | |
|---|---|
| *No. of Groups* | *65* |
| *Arellano-Bond test for AR(1) (Pr > z)* | *0.029* |
| *Arellano-Bond test for AR(2) (Pr > z)* | *0.252* |
| *Hansen test of overidentifying restrictions* | *0.390* |

*Note: Standard error in the parenthesis. *, **, ***Significant at 10, 5 and 1 per cent levels, respectively*

At 2nd lag of retained cash flows, there is no autocorrelation problem as given by Arellani-Bond test. Largest 03 shareholding is strongly significant at p < 0.01, Executive director's ownership and institutional ownership are found to be significant at p < 0.05. However, diffused shareholding of less than 1% ownership, mutual fund ownership and independent non-executive directors' ownership are found to be statistically insignificant at all acceptable p-levels. The control variables; listed age of firm, return on assets and board meetings are significant in the study. In contrast, last 12 months' stock momentum and board committees are found statistically non-significant. In terms of hypothesis of the study, ownership concentration has a positive impact on levels of free cash flows and diffused ownership has a negative insignificant relationship, affirming the $H_1$, while rejecting the $H_2$ of the study. Managerial ownership has a significant positive relationship with free cash flows as in line with the previous studies, proving true for $H_3$ of the study. Institutional ownership has a positive impact on retained cash flows as in line with Herdinata (2015) but in contrast to the current study's hypothesis of a negative relationship thus rejecting $H_4$. Mutual funds have a positive relationship with free cash flows and independent non-executive ownership has a negative relationship while both variables are statistically insignificant rejecting the $H_5$ and $H_6$. For Retail ownership, the study uses RETOWN instead of INOWN which provides significant results with negative slope. Due to collinearity and interchangeability among INOWN and RETOWN, both variables are not to be used in the same model. Following is the final regression model as per coefficient results.

$$RCF_{i,t} = -0.0273 + 0.0077RCF_{i,t-2} + 0.0084LSH3_{i,t} - 0.0001OTHER_{i,t} + 0.0007MANOWN_{i,t} + 0.0006INOWN_{i,t} + 0.004MFOWN_{i,t} + 0.1268ROA_{i,t} + 0.0036MOM12M_{i,t} - 0.0001BCOMM_{i,t} - 0.0059BMEET_{i,t} + \sum_{i=1}^{7} IND_{i,t} + \sum_{i=1}^{10} Year + \varepsilon_{i,t} \quad \text{..... Equation (4)}$$

For data from Pakistani firms, the results for correlation matrix are given below in table 7. There are a total of 25 groups in the panel

data study for Pakistan's firms and total observations amount to 200.

**Table 7 Correlation Diagnostics with Significance levels for Pakistani Firms**

| Correlation | RCF | L.RCF | L2.RCF | LSH3 | OTHER | MANOWN | INOWN | RETOWN | MFOWN |
|---|---|---|---|---|---|---|---|---|---|
| $RCF_{i,t}$ | 1 | | | | | | | | |
| $RCF_{i,t-1}$ | 0.7712*** | 1 | | | | | | | |
| $RCF_{i,t-2}$ | 0.5259*** | 0.7782*** | 1 | | | | | | |
| LSH3 | 0.1115* | 0.1085 | 0.1165 | 1 | | | | | |
| OTHER | -0.018 | -0.0153 | -0.055 | -0.6784*** | 1 | | | | |
| MANOWN | -0.1488** | -0.1992*** | -0.2347*** | -0.4041*** | 0.0203 | 1 | | | |
| INOWN | -0.1362** | -0.1610** | -0.1686** | 0.5446*** | -0.3348*** | -0.2093*** | 1 | | |
| RETOWN | 0.1362** | 0.1610** | 0.1686** | -0.5446*** | 0.3348*** | 0.2093*** | -1.000 | 1 | |
| MFOWN | -0.0367 | -0.0937 | -0.171** | -0.3586*** | 0.4365*** | -0.0661 | 0.0055 | -0.0055 | 1 |

*Note: *, **, *** Significant at 10, 5 and 1 percent levels, respectively*

Total number of instruments of the study are 25 which satisfies the conditional rule of keeping instruments equal or below the number of groups in GMM analysis to avoid over identification issue. The autocorrelation issue at second order is also non-existent as per the Arellano-Bond test and the Hansen J test for overidentification of instruments is also valid showing non-rejection of the null hypothesis, indicating that the instruments are valid and not overfitting the model. This validates the use of a higher number of instruments in this case. The results of Pakistani firms are given below in table 8.

**Table 8 Two-Step Sys-GMM for Retained Cash Flows in Pakistani Firms**

| *Dependent Variable Investment Inefficiency* | *SYS-GMM estimation* | |
|---|---|---|
| *Constant* | *0.108**** | *0.0109* |
| $RCF_{i,t-1}$ | *1.008**** | *0.0658* |
| $RCF_{i,t-2}$ | *-0.289**** | *0.0599* |
| *OTHER* | *-0.0005*** | *0.0002* |

| | | |
|---|---|---|
| *MFOWN* | *0.0016**** | *0.0004* |
| LEV | *-0.0989**** | *0.0145* |
| *BMEET* | *-0.0033**** | *0.0007* |
| *No. of Instruments* | *25* | |
| *No. of Observations* | *200* | |
| *No. of Groups* | *25* | |
| *Arellano-Bond test for AR(1) (Pr > z)* | *0.019* | |
| *Arellano-Bond test for AR(2) (Pr > z)* | *0.878* | |
| *Sargan test of overidentifying restrictions* | *0.164* | |
| *Hansen test of overidentifying restrictions* | *0.434* | |
| *Note: Standard error in the parenthesis. *, **, ***Significant at 10, 5 and 1 per cent levels, respectively* | | |

The results of table 8 from two-step dynamic panel data analysis utilizing system generalized method of moments, reveal that for Pakistani firms, at second lag of dependent variable, diffused shareholding having < 1% stake is found to be negatively significant at $p < 0.05$ implying that RCF is also negatively impacted by the decrease in ownership concentration in Pakistan's sharia-compliant firms. Mutual fund's shareholding in the sharia-compliant firms of Pakistan is found to be positively and strongly significant at $p < 0.01$ revealing the tendency of mutual funds to retain more cash in firms as in line with the previous literature.

The results depict that there exists a strong positive relationship between free cash flows in sharia compliant firms and the ownership concentration proxy used in the study (top three largest shareholders). This is in line with the agency theory and the free cash flow theory suggested by Jensen, stating that the management tends to build excess free cash flows in firms, resulting in availability of extra funds for their projects. On the contrary, although statistically insignificant, higher dispersed shareholding in the sharia compliant firms show lesser availability of free cash and provide evidence in accordance to previous studies that dispersed shareholdings allow companies to have better decision making and less exploitation of resources. The results also reveal that higher ownership of executive directors in the company results in higher retained cash predicting higher agency costs and exploitation of resources of the company as in accordance with the agency theory depicting exploitation of resources by the agents of the company and in contrast to the stewardship theory which defines agent as custodian of resources who diligently manages assigned resources. As per the results of

current study, it was found that institutional owners tend to increase the retained cash flows. These results are in accordance with the study carried by Herdinata (2015) who states that the relationship of institutional owners with free cash flows is inverse in case of firms with higher investment opportunities and is direct with firms where investment opportunities are limited. As sharia compliant firms are restricted in their investment ventures and currently have limited exposure to financial products as well, the results are in-line with stated study. Another reason for building up of reserve cash would be according to precautionary motive to hold cash theory, which examines risk averse behavior of institutes through reasons to retain cash within companies to help them in case of need. As in line with the institutional owners, mutual funds in sharia compliant firms (although insignificant) increases the total retained cash flows of the company, which is in line with the previous studies showing that mutual fund managers like to keep higher levels free cash with them. The impact of independent non-executive director's ownership is found statistically insignificant as well depicting that there is no relationship of independent owners on retained cash flows in sharia compliant firms. However, the direction of correlation is in-line with previous studies depicting higher proportion of independent directors tend to minimize free cash flow availability to its management's disposal. The results from significant coefficients are summarized in table 9 as follows. Interestingly, the board meeting frequency tends to increase the amount of retained cash flows in the companies, which in turn causes overinvestments in projects. The relation can be translated through precautionary motive to hold cash theory where greater frequency of meetings depicts stressful micro/macro-economic conditions for the company, forcing the owners to increase retained free cash for unforeseen needs.

**Table 9 Results Inference for impact of ownership structure on retained cash flows**

| Regressor | Results Inference |
|---|---|
| LSH3 | If percentage ownership in LSH3 increases by 1 then Free Cash Flows increases by 0.84% |
| MANOWN | If percentage ownership in MANOWN increases by 1 then Free Cash Flows increases by 0.07% |
| INOWN | If percentage ownership in INOWN increases by 1 then Free Cash Flows increases by 0.06% |
| ROA | If Return on Assets increases by 1 then Free Cash Flows increases by 12.68% |
| Age | If stock momentum is increased by 1 then Free Cash Flows increases by 0.09% |
| BMEET | If number of board meetings are increased by 1 then Free Cash Flows decreases by 0.59% |

**6. Conclusion and Practical Implications**

The results show that higher ownership of executive directors in the sharia compliant companies result in higher inefficiencies predicting higher agency costs and exploitation of company resources. The concentrated ownership prefers to keep higher proportion of retained cash flows at their disposal which in turn results in inefficient investments through over investing behavior. Executive director shareholders prefer to keep higher retained cash flows to invest in their own ventures and projects to get more funds at their disposal. The same can be witnessed in the case of institutional ownership in the firms, as in line with the theory, suggesting that firms prefer to keep higher cash as a precautionary measure for future discrepancies. Other types of shareholdings, i.e. diffused shareholding, mutual fund's shareholding and independent non-executive shareholder are found insignificant statistically to impact the decisions of retaining cash in the firms. In context of Pakistan's data, diffused ownership is found to diminish the retained free cash flows and mutual funds are found to enhance the retention of free cash flows in sharia-compliant non-financial firms. The current paper explored the agency problems and costs that arise due to structure of ownership a sharia-compliant firm is in and how these sharia-compliant firms can utilize the results of this study to maximize utility from ownership mix and ownership concentration aspects of their owners. These firms can also strategize their ownership partners to achieve strategic goals. Conversely, the knowledge from current study can be utilized to reverse calculate the cause of agency problems in a firm. The nature of ownership structure determines the cash flows of a firm, helping the decision makers to conduct root cause analysis in case any agency problem arises or if exploitation of resources in a firm needs to be mitigated. The findings intricately explore decision dynamics by its owners and the consequences of their decisions.

For future research implications, the study could be further enhanced by inclusion of owner/investor activism as a proxy for ownership structure. Alongside, further ownership variables like foreign ownership, government ownership can also be used in the study. Rights of management/owners over cash flow of companies can also be utilized as a proxy for agency costs. Retained cash flows can be replaced with other cash flow measures for investment and financing purposes and instead of residual model for efficiency measurement, tobin's Q can also be engaged for diversification purposes. For comparison purposes, instead of Malaysia and Pakistan, other countries can be included in the study, further enhancing its scope and applicability.

**7. References:**

Abbott, L.J. Parker, S. and Peters, G.F. (2004), "Audit committee characteristics and restatements", *Auditing: A Journal of Practice and Theory, Vol. 23 No. 1*, pp. 69-87.

Aggarwal, R., Erel, I., Ferreira, M., & Matos, P. (2011). Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics, 100*(1), 154-181.

Ang, J., & Ding, D. (2006). Government ownership and the performance of government-linked companies: The case of Singapore. *Journal of Multinational Financial Management*, 16, 64–88.

Anwer, Z., Azmi, W., & Mohamad, S. (2020). Shariah screening and corporate governance: The case of constituent stocks of Dow Jones US Indices. *International Review of Economics & Finance*.

Anwer, Z., Mohamad, S., Paltrinieri, A., & Hassan, M. K. (2021). Dividend payout policy of Shariah compliant firms: Evidence from United States. *Pacific-Basin Finance Journal*, 101422.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The review of economic studies*, *58*(2), 277-297.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*(1), 29-51.

Baltagi, B. H. (2005). Econometric Analysis of Panel Data. John Wiley & Sons, Chichester, 3rd ed.

Ben Moussa, F., & Chichti, J. (2012). Interactions between free cash flow, debt policy and structure of governance: Three stage least square simultaneous model approach: evidence from the Tunisian stock exchange. *Corporate Ownership & Control, 9(2)*, 21-40. https://doi.org/10.22495/cocv9i2art2

Bukit, R. B., & Iskandar, T. M. (2009). Surplus free cash flow, earnings management and audit committee. *International Journal of Economics and Management*, *3*(1), 204-223.

Chen, G., Firth, M., Gao, D. N., & Rui, O. M. (2006). Ownership structure, corporate governance, and fraud: Evidence from China. *Journal of Corporate Finance*, 424-448.

Chen, X., Harford, J., & Li, K. (2007). Monitoring: Which institutions matter? *Journal of financial Economics,* 279-305.

Chung, R, Firth, M & Kim, J. (2005), "Earning Management, Surplus Free Cash Flow, and External Monitoring", *Journal of Business Research,* 58, 766-776.

Comte, A., [1830–42], *The Positive Philosophy of Auguste Comte: Freely Translated and Condensed by Harriet Martineau,* H. Martineau (trans). 3 vols. London: George Bell & Sons, 1896.

Ducassy, I., &Guyot, A. (2017). Complex ownership structures, corporate governance and firm performance: The French context. *Research in International Business and Finance,* 291306.

Fama, E. F., & Jensen, M. C. (1983). Agency problems and residual claims. *The Journal of Law and Economics,* 327-349.

Florackis, C., Kostakis, A., & Ozkan, A. (2009). Managerial ownership and performance. *Journal of Business Research, 62*(12), 1350-1357. DOI:https://doi.org/10.1016/j.jbusres.2008.12.001

Gomes, A. (2000). Going public without governance: managerial reputation effects. J. Finance, 615–646.

Gürsoy, G., & Aydoğan, K. (2002). Equity ownership structure, risk taking, and performance: an empirical investigation in Turkish listed companies. *Emerging Markets Finance & Trade*, 6-25.

Hansen, L. P. (1982). Large sample properties of generalized method of moments estimators. *Econometrica: Journal of the econometric society*, 1029-1054.

Harford, Jarrad, Mansi, Sattar A. and Maxwell, William F., (2008), Corporate governance and firm cash holdings in the US, *Journal of Financial Economics, 87*, issue 3, p. 535-555

Hayes, R., Mehran, H., & Schaefer, S. (2004). Board committee structures, ownership, and firm performance. In *Federal Reserve Bank of New York Finance Seminar Series, New York University, New York*.

Herdinata, C. (2015). Interdependence between Institutional Ownership and Leverage of Free Cash Flow: The Development of Agency Theory Model in Balancing Conflict of Interest in Indonesian Company.

Hoberg, G., & Prabhala, N. R. (2008). Disappearing dividends, catering, and risk. *The review of financial studies*, *22*(1), 79-116.

Hsiao, C. (2022). *Analysis of panel data* (No. 64). Cambridge university press.

Hu, A., & Kumar, P. (2004). Managerial Entrenchment and Payout Policy. *Journal of Financial and Quantitative Analysis, 39*, 759 - 790.

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review,* 76(2), 323329.

Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance,* 831-880.

Jensen, M. C., &Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics,* 305-360.

Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. Macmillan and Company.

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of accounting and economics,*

375-400.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of financial economics,* 3-27.

Lin, Y. E., Li, Y. W., Cheng, T. Y., & Lam, K. (2021). Corporate social responsibility and investment efficiency: does business strategy matter? *International Review of Financial Analysis,* 73, 101585. https://doi.org/10.1016/j.irfa.2020.101585M

Lins, K. (2003). Equity ownership and firm value in emerging markets. J. Financ. Quant. Anal, 159–184. McConnell, J. J., &Servaes, H. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial economics,* 595-612.

Mong'o, M. G. (2010). The relationship between cash-flows and profitability of commercial banks in Kenya (Doctoral dissertation).

Mura, R. (2007). Firm performance: Do non-executive directors have minds of their own? Evidence from UK panel data. *Financial Management, 36*(3), 81-112.

Naim, A. (2010). All about islamic banking and finance, islamic capital markets, takaful, shariah auditing, accounting for islamic financial transactions, taxation & zakat. Retrieved from http://arzim.blogspot.com/2010/01/differentiate-between-shariah.html

Nekhili M..Wali A. and Chebbi D. (2009). Free cash flow, gouvernance et politique financière des entreprises françaises. *Finance Contrôle Stratégie 12* (1), 5-31.

Ntim, C. G. (2011). The King reports, independent non-executive directors and firm valuation on the Johannesburg stock exchange. *Corporate Ownership and Control*, *9*(1), 428-440.

Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of finance,* 471-517.

Rajan R.G. and Zingales. L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance 50*(5), 1421- 1460.

Rozeff, M. S. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial Research, 5*(3), 249-259. Available at: https://doi.org/10.1111/j.1475-6803.1982.tb00299

Sargan, J. 1988. Testing for misspecification after estimation using instrumental variables. In *Contributions to econometrics: John Denis Sargan, ed. E. Maasoumi, vol. 1.* Cambridge: Cambridge University Press

Saunders, M., Lewis, P. and Thornhill, A. Research methods for business students. 5th ed. Harlow: *Pearson Education Limited.* (2009)

Sekaran U. (2003). *Research Methods for Business: A Skill Building Approach. 4th edn.* John Wiley: Hoboken, NJ.

Setayesh, m., &salehinia, m. (2015). The effect of ownership structure and capital structure on free cash flows. *The financial accounting and auditing researches, 7*(25), 15-32. https://www.sid.ir/en/journal/ViewPaper.aspx?id=459622

Shleifer, A., & Vishny, R. (1986). Large shareholders and corporate control. *J. Political Econ,* 461–488.

Soet, M. A., Muturi, W., & Oluoch, O. (2018). Effect of operating cash flow management on financial performance of Mutual Funds in Kenya. *European Journal of Business, Economics and Accountancy, 6 (5), 37*, *46*.

Taghavi, M., Valahzaghard, M., & Amirjahadi, N. (2014). An investigation on the effect of the corporation governance structure and free cash flow on over-investment. *Management Science Letters*, *4*(3), 567-572.

Wells, B. P., Cox, L. A., & Gaver, K. M. (1995). Free cash flow in the life insurance industry. *Journal of Risk and Insurance*, 50-66.

**8. APPENDIX**

**Definition and Measurement of Variables**

| Name | Symbol | Proxy | Reference |
|---|---|---|---|
| Free Cash Flows | RCF | RCF = $\frac{\text{NOBDA}_{i,t} - TAX_{i,t} - INT_{i,t} - TDP_{i,t}}{TA_{i,t-1}} X\ 100$ | Lehn and Poulsen, (1989); Chung, Firth and Kin (2005). |
| Ownership Concentration | LSH1<br>LSH3<br>OTHER<br>CASH | LSH1: Shares Held by Largest Shareholder<br>LSH3: Sum of shares held by Largest 3 shareholders<br>OTHER: Shares held by Diffuse Shareholders<br>CASH: Cash flow Rights of largest Shareholder | Gürsoy and Aydoğan (2002) |
| Managerial Ownership | MANOWN | $\frac{shares\ owned\ by\ Executive\ directors}{Total\ outstanding\ shares} X\ 100$ | Ben Moussa and Chichti (2012) |
| Institutional Ownership | INOWN | $\frac{\text{Institutions Owned Shares}}{Total\ outstanding\ shares} X\ 100$ | Ben Moussa and Chichti (2012) |
| Mutual Funds Ownership | MFOWN | $\frac{\text{Mutual Funds Owned Shares}}{Total\ outstanding\ shares} X\ 100$ | Aggarwal, et al, (2011) |

| | | | |
|---|---|---|---|
| Foreign Ownership | FOROWN | $\frac{\text{Foreign Owned Shares}}{Total\ outstanding\ shares} X\ 100$ | Ang and Ding (2006) |
| Retail Ownership | RETOWN | $\frac{\text{Retail (Individuals) Owned Shares}}{Total\ outstanding\ shares} X\ 100$ | Mura (2007) (Modified) |
| Independent Non-executive Ownership | INEXOWN | $\frac{shares\ owned\ by\ Ind.\ Non.\ Exec\ Directors}{Total\ outstanding\ shares} X\ 100$ | Mura (2007) |
| Growth | GROWTH | Growth = $\frac{SalesGrowth_t + SalesGrowth_{t-1}}{2}$ | Chen, et al, (2006) |
| Size of Firms | SIZE | $Log_n$ (TA) | Chen, et al, (2006) |
| Size of the Board | BSIZE | No. of members on the board | Chen et al., (2006) |
| No. of committees on the board | BCOMM | No. of committees on the board | Hayes, Mehran and Schaefer (2004) |
| No. of board meetings | BMEET | No. of meetings held by the board in a fiscal year | Chen, et al, (2006) |
| Age | Age | The number of years between fiscal year and listing year | Lin, et al, (2021) |
| Return on Assets | ROA | Return on Assets = $\frac{Total\ Sales}{Total\ Assets}$ | Lin, et al, (2021) |
| Stock Momentum | MOM12M | The 12 Month stock returns before the investment year | Chen, et al, (2006) |