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Does performance relate to ownership structure and information disclosure? Evidence from banking sector of Pakistan

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Abstract: The study aims to test the relationship among ownership structure, information disclosure and the performance of the Banking Sector of Islamic Republic of Pakistan. Panel set of data is collected from the annual reports of 24 sample banks from the year 2005 to 2014. The study developed the disclosure index of the Pakistani banking sector which was not measured by any previous research. Ownership concentration of banks is measure by Herfindahl index (HHI), and the performance of banks is measured by Tobin's Q. Simultaneous regression model 3SLS is used to test the mutual relation among three ownership structure, information disclosure and firm performance. The regression result shows that the information disclosure has statistically significant positive effect on ownership structure. Increase in adequate disclosure will increase the trust of investors on the bank; they will find their investment less risky and invest a big sum of money. The result infers that the ownership structure has statistically significant negative effect on firm performance. In most of Pakistani banks the ownership is separate from control which increases the controlling cost and has negative impact on performance. Additionally the result also shows the link between the firm performance and information disclosure is statistically significant and positive which infers that the strong banks with good performance disclose more about their financial results as compare to weak banks.

Keywords: Information Disclosure, Ownership Structure, Tobins Q
JEL Classification: D82, G30, F36, G32

1. Introduction

The ownership structure has major role in corporate governance as it confirms the manager's incentives and performance of the firm they manage. Ownership structure doesn't influence firm's performance directly as information disclosure is additionally an element to influence firm's performance. Therefore, it is necessary to determine the association among information disclosure, ownership structure and the firm's performance. The study measures how the ownership structure affects the firm's performance when it is affected by information disclosure. In the study three major types of the ownership structure of a bank is defined and their

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impact on the level of information disclosure. It includes managerial ownership, government ownership and private ownership.

The quality of business information is beneficial for stakeholders that rely heavily on such information in deliberating and comprehending how the various elements of a bank behave economically. Therefore, the enhancing diversification and, complexity in bank's business required to adopt the international accounting standards on information disclosure that gave the impression of bank's financial reportage and so satisfy the wants of most users. The study reveals that ownership structure is not a single measure of firm's performance while quality information disclosed by firm also affects the firm's performance. So it should not be ignored while measuring the bank's performance. The study considers that bank's performance is affected by the ownership structure which is affected by the information disclosure, and firm's performance affects the level of information disclosure.

Although ownership structure determines both firm's performance and information disclosure, it should be considered explicitly that ownership structure may be as well be an outcome of both information disclosure and firm performance. Results of previous studies infer that firm performance ownership structure, information disclosure could be interdependent. That is the quality or level of information disclosure affects the ownership structure, ownership structure influence firm performance, and also firm performance influence the information disclosure.

Consequently, it is not absolutely right to consider that ownership structure unidirectionally finds outs firm value; however, the framework should be broadened in order to determine explicitly the mutual relationship among firm performance, information disclosure and ownership structure. Chau, and Grey (2002) found a positive relationship between ownership concentration and quality of information disclosure. Hu, and Izumida (2009) found that the relationship of ownership concentration with Q either could be positive or negative. In case of managerial ownership it the expected relationship is positive while in case of non-managerial ownership it will be negative. Beverly (2007) determined the positive relationship between information disclosure and firm's performance. Holderness (2014) determined that there is negative relation between firm's age and ownership concentration. Din, Javed and Imran (2013) found that the relationship between leverage and ownership concentration is negative. Lu et al., (2007) determined that large ownership has negative association with ownership concentration. The results of past studies inferred a positive relationship between the size and the financial performance of the firm. Chhibber and Majumder (1999) found a positive relationship between firm size and performance. Leng (2004) also inferred the same results by using data from Malaysian firms. Pathirawasam, and Wickremasinghe (2012) determined a positive relationship between firm's performance and leverage. Jalila, and Devi (2007) found negative association between the managerial ownership and the quality of information disclosure. Jalila, and Devi (2007) determined a positive relationship between the government ownership structure and the quality of information disclosure. It was also found positive relationship between private/institutional ownership and the quality of information disclosure exists.

The study employs panel data which is collected from the annual reports of 24 banks in Pakistan from the year 2005 to 2014. Due to non-availability of data for some banks for ownership structure and disclosure index, the study has trimmed the dataset to 24 banks. The study also dropped some banks which did not provide data on the complete set of ownership structure and information disclosure in their annual reports.

2. Literature Review

McConnell and Servaes (1990) determine the association between performance and ownership structure for a sample of 173 firms from 1976 and 1093 firms from 1986. The study discovers the major association between performance and inside ownership. The study finds that up to the 50 percent of inside ownership the relationship between performance and ownership is positive, after that it becomes negative. The study tends to additionally realize a major direct relationship between performance and the ownership of shares owned by inside investors. Findings of the study confirm the hypothesis of study that firm's performance is associated with the equity ownership structure of the firm. Another study (Cole and Mehran, 1998) tends to determine the value of stock prices and the structure of ownership for a sample of establishments which were indulged from mutual ownership to equity ownership. The study discovers that when the restrictions on the ownership structure were not imposed the revenues of the firm rise considerably, and the managerial ownership and the firm's employee ownership increased considerably. However the changes in the managerial ownership and changes stock ownership plan of employees are inversely related.

Cho (1998) investigates the association among the structure of ownership, investment, and value of the firm that specialize in whether or not ownership structure affects investment. This study proofs that the performance affects the ownership structure. Similar association has been examined by Demsetz and Villalonga (2001) Moreover the results also conclude that spread ownership creates some agency problems, additionally it provides some benefits which balance those problems. Chau and Grey (2002) determine the relationship of ownership structure with the extent of information disclosure which the companies disclose voluntarily. The study collected the data from the annual reports of the companies which are listed in in Singapore and Hong Kong stock exchanges. The study finds out that the relationship of ownership structure and information disclosure is positive.

The nonlinear relationship between company performance (Tobin's Q) and managerial ownership is well documented by Davies, et al (2002). Same nonlinear relationship is also examined by Welch (2003) determines the connection between the ownership structure of the company and performance. This study includes the data from sample companies which are listed in Australian stock exchange. Spiegel and Yamori (2004) indicate that the disclosure is widely thought to be an important factor for market disciplinary measure in a very advanced money segment. Kobeissi (2004) provides a robust contribution to business research by providing the results of organizational type and ownership structure on firm performance. Ibrahim, et al (2004) displays some option reporting and performance measures which could be utilized by Islamic banks which are more in accordance with their built up goals. Medeiros and Quinteiro (2005) demonstrate the relationship of disclosure of financial information with performance, while observing positive effects of the level of information disclosure on the economic value of business. Tadesse (2006) determine the role of larger disclosure in fostering banking industry stability. The study documents that larger disclosure and tight external audit needs area unit powerfully related to banking industry stability.

Huang (2006) infers that the disclosure of some accounting numbers like profits and loans could be enough for industrial sector companies while it is not enough level of disclosed information by the banks. Likewise, Hirtle (2007) determines the connection among the amount of disclosed information by the bank holding corporations, the level of risk faced by the bank and the performance. Lu, Liao and Yang (2007) consider that the ownership, performance and information disclosure are determined as both exogenous and endogenous variables and affect each other in determining their values. Three stage least squares is used to infer the results of relationship among ownership, Performance, and disclosure. Ali, et al (2007) aim to determine the relationship of ownership structure and information disclosure. The study is based on the theory of agency cost. The study infers that in government ownership increases the agency cost. The study also infers a negative association between the family owned firms and the level of information disclosure.

Iannotta, et al (2007), Balsmeir and Dirk (2010) and Bruton, et al (2010) determine the different types of ownership and measures the effect of concentration of ownership on the performance of the banks. Majid and Ismail (2010) study that disclosure and therefore the capital needs of banks greatly affect the approach banks area unit expected to be performed. Rouf and Harun (2011) inspect the relationship of managerial and non-managerial ownership structure with the level of information disclosed voluntarily. The results infer a positive association between non-managerial ownership and disclosure, and a negative relation of disclosure with managerial ownership.

Jalila and Davi (2012) determine the relationship of different ownership structures with the level of information disclosed voluntarily. The study measured the level of ownership concentration in family and non-family owned firms and compare it with the disclosure level. Overland, et al (2012) also determines the different measures of ownership structure and their relation with the firm performance. The study infers that the most important measure of ownership that is widely used in previous studies is herfindahl index (HHI). Bhatt (2013) determines the relations between risk management disclosures, governance, and the market rating of the fair value gains and losses (FVGL) for US depository financial institution holding corporations (banks). The study realizes that banks with sturdy company governance disclose more regarding their risk management practices which the market rating of the FVGL increases with the extent of disclosure. Sowerbutts, et al (2013) observe the practices of disclosure in the annual reports of the companies over time to time around worldwide. Htay, et al (2013) finds the relationship among the information disclosure and corporate governance. Merve and Nizamettin (2013) provide empirical observation on measuring determinants of information disclosed voluntarily among the Turkish companies registered on Istanbul stock exchange. On the other hand, Juhmani (2013) discovers the relationship between ownership structure and the level of information disclosed voluntarily.

Hamid (2014) aims to test the relationship among the information disclosure and deposits of the bank. And Holderness (2014) determines the variables which are related to the ownership structure of a firm which includede cultural behaviors, legal securities for investors, and other religious issues have no significant relationship with the ownership structure. The effect of different ownership types on the performance of the bank is studied by Rahman and Reja (2015). The study found a negative relationship of managerial ownership with firm performance, Government ownership is also found negatively related to performance. Only the institutional ownership has the significantly positive relationship with the performance.

3. Theoretical Framework

Information disclosure is very important for the stability in the banking sector. Investors and other stake holders use the information disclosed in the annual reports of the bank to analyze risk and challenges faced by the bank, to assess the returns and losses of the bank, to analyze the stability and market strength of the bank, and to assess the future outlooks and growth of the bank. The information disclosed by the banks should be adequate and useful for the investors and other stakeholders. The inadequate disclosure can cause the financial crisis in the bank. The banks with high profits and with strong market place disclose more about their financial results, while the weak banks are always reluctant to disclose about their financials to the general public in their annual reports.

The more adequate and high level of disclosure insure equity and debt investors that the bank is not bearing too much risk and the money of investors is safe. So, information disclosure is an important term to meet the financing needs of the bank specially to attract the large investors. The investors will be reluctant to put a large sum of money in the bank in case of having no proper information about the financials of the bank, while the investor who has all the necessary information about the bank to make investment decision will trust the bank and invest more and more because he will be aware about each and every thing and finds his investment safe.

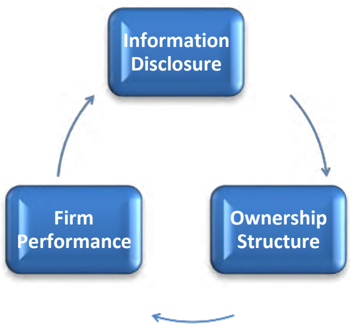
This study is concerned about to investigate the association among the structure of ownership, quality or level of information disclosure and the firm's performance. Ownership structure doesn't influence firm's performance directly; information disclosure is additionally an element to influence ownership structure and firm's performance. Moreover all of these three variables are interdependent.

Information disclosure influences the ownership structure. There is a positive association between information disclosure and ownership concentration. High and adequate disclosure is associated with low risk. Adequate levels of information disclosure attract the strong investors (government or private/institutional) to better assess the risk and returns of the business. It develops the trust of the investor on the firm and motivates him to purchase the shares of the firm and make equity financing. The association between information disclosure and performance is positive. A lot of disclosure is related to lower risk, especially idiosyncratic risk, and successively with higher risk-adjusted returns. Larger disclosure is related to effective risk taking and therefore improved risk-return trade-offs, though the direction of effort is unclear. Inadequate public disclosure by banks contributed to the money crisis. This can be as a result of investors, unable to evaluate the risks that banks area unit bearing, withdraw their deposits in times of general stress. Predictability of stock returns is also associated with the level of disclosure.

Ownership structure affects the firm's performance. In case of non-managerial ownership (government or private) the association between ownership concentration and firm performance will be negative because of the fact that the management is not in the hands of owners and it rises the controlling cost of the firm and managers incentive, that's why there would be a negative impact on performance. While in the case of managerial ownership the relationship between performance and ownership is positive because when the managers are the owner of the firm they will strive more to enhance their wealth, moreover in this case the managers incentives and controlling cost of firm will reduces that will lead increase in performance of the firm.non managerial ownership is positively associated with information disclosure level. The external owners will demand more disclosure to analyze the risk and returns of the business, so the managers will disclose more and more to meet the disclosure requirement because of external pressure. While in managerial ownership the association between ownership structure and information disclosure is negative because there would be no pressure of external owners to disclose more, moreover the managers as the owners will prefer to keep some secrets about business of the firm.

Firm performance also affects the information disclosure. There is a positive link between adequate levels information disclosure and bank performance. The banks with good performance and risk adjusted returns will be more willing to disclose about their financial performance in the annual reports, while the banks with poor financial performance will be reluctant to show accurate and adequate information about their financial results in their annual reports. Firm performance has negative relationship with ownership concentration by the external or non-managerial owners. In case of non-managerial ownership structure when the performance of firm is high the more and more external owners want to participate in the bank as owner by purchasing its shares, it leads to lesser concentration of ownership in the hands of few large owners. The schematic representation of the model is given below in Figure 1.

Figure 1: The Diagrammatic Representation of the Model



Source: Lu, Liao, and Yang (2007)

4. Data and Variables

The present study has utilized the secondary data set. The data set consists of time series and cross sections. The time period involved is from 2005 to

2014. The cross section includes 24 banks. These 24 sample banks have more than 80% share in the banking industry of Pakistan and include major corporate banking sector. Panel dataset is collected from the annual reports of 24 sample banks provided on their websites from the year 2005 to 2014.

The ownership structure of a bank can be defined as the division of ownership of equity regarding the voting rights, capital and identity of the equity holders. Ownership concentration (HOLD) is measured by Herfindahl index (HHI) that is the squared sum of holdings of all shareholders, taking the distribution into account. HHI has been measured in a lot of studies to examine the relationship of ownership concentration with other variables. (Cubbin and Leech, 1983; Demsetz and Lehn, 1985; Leech and Leahy, 1991; Renneboog, 2000; Goergen and Renneboog, 2001). In all researches the HHI has been measured for large shareholders because of the limited data resources.

In most of the previous studies bank's performance is measured by Tobin's Q ratio. James Tobin, (1968) introduced this ratio, and proposed that the total market value of a company in the stock market is equal to its replacement costs. The Tobin's Q ratio is calculated as the market value of a firm divided by the total asset value of the firm.

The study has measured disclosure index (DISC) using the method described by Huang, (2006). Disclosure Index of each sample bank from the year 2004 to 2014 is calculated to determine the extent or quality of information disclosed by each bank voluntarily in annual reports. According to Basel requirements of disclosure, 33 variables are essential to disclose by each bank. Bank is awarded score 1 and 0 against each variable. If the variable is present in annual report then 1 otherwise 0, then taking the aggregate of scores for each bank and dividing by the total number of variables.

Huang, (2006) determined the Basel requirements of information disclosure described the nine categories of information Disclosure which are given below, these categories are further sub divided in 33 variables that are necessary to disclosed by the banks.

1. Loans: it includes the, problem loans, credit risk, loans by maturity, and counterparty type.
2. Other Earning Assets: it includes the details of securities i.e. by type of securities and for holding concern

3. Deposits: it describes the deposits in terms of maturity time and type of customer.
4. Other Funding: it describes the time of funding i.e. for short period or long term.
5. Memo Lines: it refers to the disclose information about off-balance-sheet items, reserves, contingent liabilities and capital ratio.
6. Other or non interest Incomes: it includes the disclosure of loan loss provisions, and list of non-interest bearing incomes.
7. Credit Risk: it includes loan loss provisions, breakdown of loans, and breakdown of impaired loans, loan classification, real estate lending, and loan concentration.
8. Market Risk: it refers to the breakdown of Market exposure, FX exposure and Duration.
9. Market Discipline: it includes market signals, corporate governance, accounting policies, and reporting frequency.

Leverage (LEV) is calculated by dividing the total liabilities to the total assets. Leverage ratio shows the financial strength of a firm to pay back to its debtor. Leverage has positive association with information disclosure. A high Leverage indicates that the bank is involved in more risky type of business and according to past studies the more risk leads to more profit. Leverage has negative link with ownership concentration. High leverage shows the high risk so the large owners will be reluctant to put a big sum of money in more risky business.

Age (AGE) of the bank is measured by calculating the number of years of incorporation of the bank. Bank Age is negatively related to ownership concentration. The inverse association between ownership concentration and bank age is just because of the reason that bank founders sold their stakes over time for diversification in their business or the bank is issuing shares often for acquisitions, and therefore diluting the ownership of present shareholders.

The relationship between ownership concentration and large ownership is negative. The owners who own more than 20% shares of the firm are considered as large owners and are given the number 1 otherwise 0. The variable is denoted as LAR. If there are more than one large owners ownership will be more dispersed. For example a owner having 100 % shares of the bank will be scored 1 and the measure of ownership concentration will be $100^2 = 10000$. On the other hand if the owner sold its 50 % shares to another person then the score of large ownership (LAR) will be 2 and consequently the ownership concentration will decrease $50^2 + 50^2 = 5000$.

Size (SIZE) is calculated as the log of market capitalization of firm. It is an equity-related proxy of size, and assumed more suitable for researches which involve equity holdings. Size of the firm is measured by taking the log of total value of market capitalization of the firm. Previous studies reported that size influences performance positively. Large size provides the benefits of both economies of scale and scope. When a bank becomes larger and larger, increase its market capitalization then its capacity to generate revenues gradually improves.

Managerial ownership (MAN) is measured as the percentage of equity held by chief executive office, top management, directors and their spouse. There is a negative association between the managerial ownership structure and the quality of information disclosure. In managerial ownership the association between ownership structure and information disclosure is negative because there would be no pressure of external owners to disclose more, moreover the managers as the owners will prefer to keep some secrets about business of the firm. Managers will avoid showing losses of the business.

Government ownership (GOV) is determined as the percentage of equity held by federal or provincial government, government institutes and general public. The association between government ownership and information disclosure is positive. The government ownership is principally affected through the government linked firms that area unit expected to own larger disclosure so as to mitigate the upper agency cost and to watch any dysfunctional governance structure of the businesses that they hold. In fact, Eng and terrorist group (2003), proofs show significant positive relationship between government structure and information disclosure.

Private ownership (PVT) is measured as the percentage of equity held by other banks and private institutions. There is positive association between information disclosure and private/institutional ownership structure. An investigation of yearly reporting practices demonstrated that the degree of outside ownership is decidedly connected with voluntary exposures. Specifically, the outcomes additionally demonstrated that the level of data exposure is liable to be high in outsider or institutional controlled firms

Chau and Grey (2002).

This study includes a total of ten variables. Three variables are endogenous variables (HOLD, DISC and Q) while the other seven are exogenous variables (LEV, AGE, LAR, MAN, GOV, PVT and SIZE).

5. The Model

To describe the relationship among ownership structure, information disclosure and firm's performance three equations are developed. The functional form of the equations is as follow**:**

$$HOLD = f\,(DISC, LEV, AGE, LAR) \quad (1)$$

$$Q = f\,(HOLD, LEV, SIZE) \quad (2)$$

$$DISC = f\,(Q, MAN, GOV, PVT) \quad (3)$$

The equation form of the model is as follow:

$$HOLD_{it} = \alpha_1 + \alpha_2\, DISC_{i,t} + \alpha_3\, LEV_{i,t} + \alpha_4\, AGE_{i,t} + \alpha_5\, LAR_{i,t} + \varepsilon_1 \quad (4)$$

$$Q_{it} = \beta_1 + \beta_2 HOLD_{i\,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \varepsilon_2 \quad (5)$$

$$DISC_{it} = \gamma_1 + \gamma_2\, Q_{i,t} + \gamma_3\, MAN_{i,t} + \gamma_4\, GOV_{i,t} + \gamma_5\, PVT_{i,t} + \varepsilon_3 \quad (6)$$

Where:

HOLD= measure the ownership concentration of firm (measured by Herfindhal Index)

Q= performance of the firm (measured by Tobin's Q)

DISC=quality/level of information disclosure of firm (measured by disclosure index)

LEV= leverage of firm measured by debt ratio (total liabilities /total assets)

AGE= establish time

LAR= Total score of large owners (one or more than one shareholders who possess 20% or above shares of the banks)

SIZE= log of firm's total market capitalization

MAN= Managerial ownership (includes the percentage of equity held by chief executive office, top management, directors and their spouse)

GOV= Government ownership (consist of the percentage of equity held by federal or provincial government, government institutes and general public)

PVT= Private ownership (includes the percentage of equity held by other banks and private institutions)

The subscript i and t represents the cross sections and time period. α_1, β_1 and $\gamma 1$ are the constant intercept terms. Since the log of variables is taken. Therefore the slope coefficients represents the elasticity i.e. the percentage change.

6. Three stage least squares (3SLS)

Simultaneous regression model three stage least squares (3SLS) in the software STATA is used in this study to analyze the mutual relationship among ownership structure, information disclosure and firm's performance. It further find outs the endogeneity, exogeneity of ownership structure, information disclosure and firm's performance. 3SLS was introduced by Zellner, and Theil (1962). It is the combination of two stage least squares (2SLS) and seemingly unrelated regressions (SUR). In this study three stage least squares measure the effect of ownership structure on firm performance and, the effect of information disclosure on ownership structure, and the effect of firm performance on information disclosure. The representation of 3sls is given above in equation 4, 5 and 6.

7. Results and Interpretation

In the study the descriptive statistics of the data describes the properties of data. It consists of the summary statistics which explain the features of the data used to conduct the research. It depicts the mean, standard deviation, minimum and maximum points of the data which depict a true image of the data.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Q	.1131159	.1230562	.0075282	.6654513
DISC	.6791217	.1140559	.5151515	.8787879
HOLD	3.771396	.141912	3.410137	3.993247
LEV	.865835	.0973056	.0034674	.9842451
AGE	23.98729	23.96939	0	73
LAR	1.347458	.5116035	1	3
SIZE	6.803082	.3672249	5.774535	8.012957
MAN	4.877357	11.99057	0	67.41
GOV	29.22049	28.58213	.0025	93.89
PVT	54.9617	32.83064	0	99.2238
Number of observations : 236				

The mean value of Q i.e. 0.113 indicates the good performance of Pakistani banks. According to James Tobin, (1968) the value of Q between 0 and 1 ($0 < Q < 1$) is favorable. The average of information disclosure i.e. 0.679 indicates that the Pakistani banks are more willing to disclose in their annual reports and disclose more about their financial performance in their annual reports. Mean value of leverage is 0.86. Standard deviation for this variable is 0.09 where minimum value is 0.003 and maximum is 0.98. Low value indicates low variation in the data set. Mean value of bank age is 23.98. High value indicates large variation in the ages of the different banks which are included in the study. The average value of managerial ownership is 4.87% that is very low as compare to the mean values of government ownership 29.22% and private ownership 54.96%. This is the main reason of insignificant results of the relationship between managerial ownership and disclosure level. The values of other variables in the above table look normal that’s why their results are statistically significant in reg3 model.

Table 2: Results for 3sls Regression

	Equation 1	Equation 2	Equation 3
Variables	HOLD	Q	DISC
DICS	0.6972*		

	[0.104] (0.000)		
LEV	-0.9302* [.0798] (0.000)	0.2763* [0.059] (0.000)	
AGE	-0.0025* [0.0003] (0.000)		
LAR	-0.05064* [0.0122] (0.000)		
HOLD		-0.28751* [.0421] (0.000)	
SIZE		0.1611* [.0143528] (0.000)	
Q			0.4121* [.0651] (0.000)
MAN			-0.0008 [0.0006] (0.222)
GOV			0.0035* [.0004] (0.000)
PVT			.00438* [.0004] (0.000)
Constant	.57551* [.0618] (0.000)	0.4277** [0.177] (0.016)	3.3832* [.0367] (0.000)
P Value	(0.000)	(0.000)	(0.000)
R^2	0.32	0.51	0.58
Endogenous Variables : HOLD Q DISC No. of Observation: 236			

Note: The value in [ ] indicate the standard errors and the value in ( ) indicate the Prob. values.
* and ** indicate that the coefficient is statistically significant at 1% and 5%, respectively.

Equation 1

The coefficient has the expected sign and it is statistically significant at 1% level. HOLD has positive relationship with DISC. The value of coefficient

0.69 indicates that an increase in DSIC will increase the percentage HOLD in the banking sector by 0.69. Adequate levels of information disclosure shows the lesser level of risk faced by the bank and attracts the strong investors (government or private/institutional) to better assess the risk and returns of the business. It develops the trust of the investor on the firm and motivates him to purchase the shares of the firm and make equity financing in large amount. A lot of disclosure is related to lower risk, especially idiosyncratic risk, and successively with higher risk-adjusted returns. Larger disclosure is related to effective risk taking and it develops the confidence of the investors to purchase shares of the bank. Inadequate public disclosure by banks contributed to the money crisis. This can be as a result of investors, unable to evaluate the risks that banks area unit bearing, withdraw their deposits in times of general stress and sell their shares to avoid the risk of loss.

The negative relationship between HOLD and LEV exists. The coefficient has the expected sign, and it is statistically significant at 1% level. The value of coefficient -0.93 demonstrate that increase in LEV by 1 will decrease the percentage HOLD by 0.93. A high Leverage indicates that the bank is involved in more risky type of business; it also shows that the obligations of the business are more than its assets. High leverage shows the high risk so the large owners will be reluctant to put a big sum of money in more risky business.

The negative relationship between HOLD and Age exists. The coefficient has the expected sign, and it is statistically significant at 1% level. The value of coefficient -0.0025 exhibits that 1 year increase in Age will decrease the percentage HOLD by 0.0025. The negative association between ownership concentration and bank age is just because of the reason that bank founders sold their stakes over time for diversification in their business or the bank is issuing shares often for acquisitions, and therefore diluting the ownership of present shareholders.

There is a negative relationship between HOLD and LAR. The coefficient has the expected sign, and it is statistically significant at 1% level. The outcome value of coefficient -0.0560 shows that increase in LAR by 1 will decrease the percentage HOLD by 0.0560. The study assigned the score 1 to the owners who owns more than 20% shares in the bank. if there will be more than one large owner the total score of LAR will increase and the concentration of ownership gradually decrease. In the case of more score of LAR the ownership will be more dispersed.

The intercept term of equation 1 is 0.57% it means that if all independent variables are equal to zero then 0.57% change in holding id due to other variables which are not included in the model. P value of constant term is 0.000 it means that it is statistically significant at 1%.

It's a statistical measure of how close the data is to the fitted regression line. It shows the goodness of the model. It should be positive and greater than 0. R square of equation 1 is 32% it means that the strength of the relationship between the model and the response variables is 32%. It is a measure of accuracy of the model. It is the standard deviation of the differences between predicted values and actual values. A lower value of RMSE is good. RMSE of equation 1 is 10% that shows that the deviation in the model is low.

Equation 2

Q and HOLD have negative relation. The coefficient has the expected sign, and it is statistically significant at 1% level. The value of coefficient -0.2875 demonstrates that increase in percentage holding by 1 will decrease the Q by 0.2875. The data from annual reports of Pakistani banking sector shows the concentration of the ownership in the hands of external owners (government and private). Non managerial ownership (government and private) the association between ownership concentration and firm performance will be negative because of the fact that the management is not in the hands of owners and it rises the controlling cost of the firm and managers incentive, that's why there would be a negative impact on performance. The relationship between Q and LEV is positive. The coefficient has the expected sign, and it is statistically significant at 1% level. The value of coefficient 0.2763 demonstrates that if LEV increase by 1 then Q will increase by 0.2763. High level of leverage shows that the debt is greater than the assets of bank and the bank is facing the higher level of risks. Evidence from previous researches had shown that the high risk leads to high profitability.

The relationship between Q and SIZE is positive. The coefficient has the expected sign, and it is statistically significant at 1% level. Coefficient value 0.1611 indicates that if SIZE increase by 1% then Q will increase by 0.2763. Large size provides the benefits of both economies of scale and scope. When a bank becomes larger and larger, increase its market capitalization then its capacity to generate revenues gradually improves.

The intercept or the constant term of equation 3 is 0.42% it means that if all independent variables are equal to zero then .42% change in holding id due to other variables which are not included in the model. P value of constant term is 0.016 it means it is statistically significant at 5% level.

It's a statistical measure of how close the data is to the fitted regression line. It shows the goodness of the model. It should be positive and greater than 0. R square is 51% it means that the strength of the relationship between the model and the response variables is 51%. It is a measure of accuracy of the model. It is the standard deviation of the differences between predicted values and actual values. RMSE is 7% that shows that the deviation in the model is low.

Equation 3

DISC and Q has positive relation. The coefficient has the expected sign, and it is statistically significant at 1% level. The value of coefficient 0.4121 demonstrates that increase in Q by 1 will increase the DISC by 0.4121. The banks with good performance and risk adjusted returns will be more willing to disclose about their financial performance in the annual reports, while the banks with poor financial performance will be reluctant to show accurate and adequate information about their financial results in their annual reports.

The relationship of DISC with MAN has the expected sign, but it is statistically insignificant at 1% and 5% level. Most of the banks in the banking sector of Pakistan have a very low or zero percentage of managerial ownership in their ownership structure that's why the results of this study are insignificant in the case of managerial ownership.

DISC and GOV has positive relation. The coefficient has the expected sign, and it is statistically significant at 1% level. The value of coefficient 0.0035 demonstrates that if GOV increase by 1% then DISC will increase by 0.0035. In case of government ownership the government as an external owner will demand more additional levels of the disclosure from the management of the bank to assess the risk and returns of the business.

DISC and PVT have positive relation. The coefficient has the expected sign, and it is statistically significant at 1% level. Coefficient value 0.0035 exhibits that if PVT increase by 1% then DISC will increase by 0.0035. The other banks and other institutions as external owners will require more and more disclosure from the bank's management and will demand to provide more fact and figure about the financial performance of the bank in their annual reports. Specifically, the outcomes demonstrated that the level of data exposure is liable to be high in outsider or institutional controlled banks.

The intercept or the constant term of equation 2 is 3.38% it means that if all independent variables are equal to zero then 3.38% change in holding will occur due to other variables which are not included in the model. P value of constant term is 0.000 it means it is statistically significant at 1%. R square of equation 2 is 58% it means that the strength of the relationship between the model and the response variables is 58%. It shows the goodness of model. RMSE is 9% that shows that the deviation in the model is low.

8. Conclusion

This study determines the interrelationships among ownership structure, information disclosure and firm's performance. Data of past ten years (2005-2014) of 24 sample banks from the Pakistani banking sector is included to construct this research. Dissimilar to past studies, the paper investigates the likelihood that ownership structure, information disclosure and firm's performance are determined in both endogeneity and exogeneity.

This study found that ownership structure has a positive significance with information disclosure, information disclosure has positive significance with firm's performance and firm's performance has negative significance with ownership structure. The negative relationship of firm's performance and ownership structure exists due to non-managerial ownership structure. In case of non-managerial ownership the controlling cost raises that has a negative impact on firm's performance. Firm's performance is an outcome of both ownership structure and information disclosure. Banks will disclose more about their financial performance to attract the investment from external owners so it will increase the ownership concentration, furthermore the banks having external owners (government and private) with sound financial performance are more willing to disclose about their financials because of external pressure of owners, so as a result information disclosure will increase. In case of managerial ownership the managers are less willing to disclose the information to the general public. In addition the external owners increase the cost of controlling and managing activities of firm so it has a negative impact on performance, most of the banks which are included in study have non-managerial ownership structure either government or private that's why the inverse relationship exists between firm's performance and ownership structure.

Information disclosure is an important term to increase the performance of the banks. Bank should disclose more and more about their financials to show their credibility to the customers and investors. in case of external ownership the bank with high disclosure quality can attract a large number of shareholders or investors rather than a bank with poor disclosure levels will find it difficult to attract shareholders, because nobody will have a trust on bank, they will find their investment risky in a bank which is reluctant to show its financial conditions in a better way. In the banking sector of Pakistan the portion of managerial ownership is very low. To have pleasant effects on the performance of banks the portion of managerial ownership should be raised. For future exploration, we may point at the expansion of the investigation by joining a few others issues, for example, obligation and research and development cost both as endogenous and exogenous variables in measuring the firm's performance.

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