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IMPACT OF OWNERSHIP STRUCTURE ON RISK TAKING BEHAVIOR, A STUDY OF NON-FINANCIAL LISTED FIRMS IN PAKISTAN

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Abstract: Risk taking by the firm is very important for the firm to maximizing its economic resources its value. However, taking huge risk may leads to crisis and other economic problems. The primary objectives of our study is to explore the relationship between ownership structure (Family ownership, institutional ownership and ownership concentration) with risk taking behavior of the firms in listed firms of the Pakistan. Our study uses the data of 270 firm's data for the period of 2011-2018 that is list in PSX. In this study pooled OLS with Random Effect Panel regression method are used to examine the relationship between the risk-taking behavior and ownership structure. Overall results suggest that institutional ownership has significant and negative relationship with risk taking behavior of the firm. Family ownership and ownership concentration has significant and negative relationship with risk taking behavior of the firms. Firm size has negative relation it means that large firms has various resources in shape of the human resource that has skillful in maintain the risk by also taking the advices of the experts. Growth opportunity has significant and positive relationship with risk taking. In Pakistan there is few researches works on the ownership structure and risk behavior especially on the ownership concentration and family ownership. In our research family ownership, ownership concentration and institutional ownership is taken because in mostly Asian countries has family and institutional owned firms. My suggestion is that some further study should be conducted on corporate governance other factors such as board expertise and knowledge, gender diversity and board qualification that make strong corporate governance and has impact on the risk-taking behavior of the firm.

Key Words: **Ownership structure, Risk taking behavior, Pakistan, Non-financial firms.**

I. INTRODUCTION

Enterprise risk-taking can increase economic growth, but risk taking is uncertain. The size of the firm differs for each company, depending on specific factors such as growth opportunity, leverage, profitability and sector specific factors such as diversity of business lines. Various individual decisions made with different motivations result in different risk-taking preferences and beliefs (Pache& Santos, 2013). Differences in risk preferences are some empirical interest in corporate finance (Basheer et al., 2014: Basheer et al., 2018), as different risk preferences will have a different impact on the capital structure and investment value in the competitive and complex global economy. For example, firms need technological change to drive growth in order to increase the total production level that will increase firms' profitability. It is claimed that high growth companies have the potential to increase future growth opportunities. Growth opportunities can come from valuable sources or attractive locations (S. N. Ahmed, 2018). Firms with higher growth opportunities encourage more risky investment projects to increase the value of firms ((John, Litov, & Yeung, 2008). Previous studies also suggest that company structures may affect risk taking behavior in companies' growth opportunities, but lack of growth opportunities is not associated with risk taking. Although risk cannot be created without risk, taking excessive risks can damage companies (Carey &Stulz, 2005) Previous studies have shown that the main factor contributing to the 2008 market turmoil in the United States is due to excessive institutional risk taking (Smith, 2011). Excessive risk-taking leads to large bankruptcies and results are felt in the world economy (Paligorova& Santos, 2017). In short, excessive risk taking can trigger a systemic collapse of other firms or markets, such as dominoes.

Our research work supported by the agency theory. An agency theory structure is utilized in the present research to feature the idea of the connection between investors, directors and auditors. In a corporate governance setting, positivist essayists on agency theory contend that the agency relationship alludes to the investors as principals and proprietors of the organization designating the everyday running of their organization to the administration (K. M. J. A. o. m. r. Eisenhardt, 1989). Frequently the principals will end up expelled from their organization causing a 'remoteness hole' to frame (Paligorova& Santos, 2017). While the agents are required to report yearly organization advancement or improvement to the principals, the principals look tor an approach to prove what the agents are stating. Financial reports are utilized to assess the board execution (Antle, 1984) so the principals need to guarantee that the agents are making an effort not to facilitate their very own advantages by trying to depict the organization in the most ideal light conceivable (Bazerman, Morgan, & Loewenstein, 1997).

It is important to understand the impact of ownership structure that includes, family ownership and ownership concentration (Basheer et al., 2019: Hidthiir et al., 2019) on corporate risk-taking behavior in corporate investment decisions and to promote the growth and productivity of firms ((Hock Ng, Lee Chong, & Ismail, 2013) . However, there is limited empirical evidence for the non-financial company in the Pakistan context. The economy of Pakistan is under developed and some research on ownership structure is conducted in developed economy that is totally different from our economy with all respect. In previous research government ownership, private ownership and foreign ownership is taken but Family ownership and ownership concentration that is not taken. In our research intuitional ownership is taken to examine the relationship between risk taking firms.

In our research there are following objectives that includes,

1. To examine the relationship between family ownership and firms risk taking behavior.

2. To examine the relationship between ownership concentration and risk-taking behavior of firm.

3. To examine the relationship between institutional ownership and risk-taking behavior of firm.

We fill the gap identify by (HanisHazwani, 2016) Which lacks the evidence of the risk taking behavior in emerging markets. Therefore, we test how ownership structure effects risk taking behavior in emerging economy like Pakistan. To test these hypotheses, we used different dimensions of the methods and use data of 270 Firms from 2011 to.2018.

We contributed in the literature by the addition of our results. Overall results suggest that institutional ownership has significant and negative relationship with risk taking behavior of the firm. Family ownership and ownership concentration has significant and negative relationship with risk taking behavior of the firms. Firm size has negative relation it means that large firms has various resources in shape of the human resource that has skillful in maintain the risk by also taking the advices of the experts. Growth opportunity has significant and positive relationship with risk taking.

The remainder of the paper organized in the following way. Section 2 about current literature and theoretical premises to explain the linkage between variables and developed several testable hypotheses. Part 3 represents the conceptual framework, research design, methodology. Section 4 includes the findings and section 5 related to the conclusion, recommendations, limitations, implementations, and future research suggestions.

II. LITERATURE REVIEW, THEORETICAL PREMISES AND HYPOTHESIS DEVELOPMENT.

2.1 Agency Theory

Agency theory goes back to the fourteenth century when it started to highlight in English precedent-based law and the law of torts. However, the utilization of office hypothesis in hierarchical financial matters is a later wonder ((N. A. Shankman, 1999). At the center of agency theory is the agency relationship. An agency relationship comprises of one member (the principal) designating undertakings to another party (the agent) (K. M. J. A. o. m. r. Eisenhardt, 1989). An agreement supports the connection among principal and agents (N. A. J. J. o. B. E. Shankman, 1999). The agreement is utilized as a motivation for agents to adjust their objectives to those of the principal. Under perfect conditions, the agents would set aside their very own advantages so as to progress in the direction of the principal very own goals (as a rule riches amplification) (Quinn & Jones, 1995). In any case, (Quinn & Jones, 1995) contend that this perfect condition is a regulating view; it is a theory of how agents ought to carry on yet not something that agents

fundamentally follow in all actuality because of 'agency issues '. 'Organization issues' (K. M. Eisenhardt, 1989) may happen when:

1. Principals and agents goal conflicting.

2. Difficult to verify what the conflicts (K. M. J. A. o. m. r. Eisenhardt, 1989).

Agency theory clarifies that organization lifespan depends on 'self-interest ' (K. M. J. A. o. m. r. Eisenhardt, 1989) with people seen to be 'ethically risky, characterized by characteristics, for example, shrewd and unfriendly determination including an inclination to lie, cheat, take and evade' (N. A. J. J. o. B. E. Shankman, 1999). agents can't be trusted to put the principals' advantages over their very own as agents will just maintain their organization understandings as long as these understandings are serving the agents' personal circumstance. The Institute of Chartered Accountants in England and Wales (ICAEW) (2005:6) contends that agents are probably going to have various thought processes to principals. They might be impacted by components, for example, monetary awards, work showcase openings for labor and associations with different parties that are not legitimately applicable to principals. It is dependent upon the principal to set up reasonable instruments between the two parties, (for example, contracts) to guarantee an arrangement of objectives among agent and principal. Observing instruments can likewise be set up to keep the agents from carrying on in a crafty way. Without instruments to screen agents' conduct, an Information 'asymmetry ' exists among principals and agents, placing agents in a solid position to channel or to control information (Hill & Jones, 1992).

2.2 Ownership structure and Risk-taking behavior.

The relationship between corporate governance and ownership structure has been examined in the literature devoted to corporate governance (Abu-Serdaneh, Zuriekat, & Al-Sheikh, 2010). The most critical division between corporate governance systems is the variation in ownership and control amongst countries. Corporate governance is apparent in the ownership and control ratio and in the identity of controlling shareholders. While some systems strengthen property control, or insider-learning systems, some of them commonly carry proprietary or external systems (Maher & Andersson, 2000). According to (Abdullatif & Al-Khadash, 2010), that the corporate governance of Asian companies is unproductive due to weak legal systems. (Omran, Bolbol, & Fatheldin, 2008) showed that Jordan is one of the countries with the highest ownership density. Family bookmarks take less risk than family take but take less risk. We also believe that it is important to examine the outcome of this behaviour. Perhaps the most recurring theme among those interested in EO is related to the positive effects of entrepreneurial processes on growth growth and performance (Lumpkin & Dess, 1996). Property and management mean that owners and managers are the same people or represent the same owner (Jensen & Meckling, 1976).

Some characteristics of the Asian corporate governance mentioned in the literature include, a large level of overlap between concentrated ownership, broad family ownership, control family ownership and management, significant cross-ownership relationships and pyramidal ownership structure. The enormous stated that the state directly owns the influence of management appointments, and finally the use of higher levels of management of professional managers (Globerman, Peng, & Shapiro, 2011) . Some authors found that family owned firms while involved in entrepreneur activities take lesser risk than nonfamily firms(Naldi, Nordqvist, Sjöberg, & Wiklund, 2007) .

Strategic simplicity is a pathological cognitive condition that causes some managers to over-use it readily without rehearsing the assumptions underlying their decisions (Gavito & Miller, 1998). As a result, the firm is able to act in ways that make more detailed and aggressive opponents vulnerable to old attacks or do not guess. Bile, selected skill, organizational skills are extreme and new skills can be used to outperform competitors, you can do precisely how to do the past experiment. In addition, improved simplicity can significantly weaken local ability to discover new family-oriented ideas, innovate, or accept risks associated with entering internal markets and industries. Conservatism can undermine long-term financial conditions throughout the family and reduce competitiveness.

Remaining companies prefer investment projects with high growth opportunities leading to the company's highly unpredictable gains (Galai & Masulis, 1976). Increasing company risk increases the shareholders' equity value at the same time and decreases the market risk against shareholders. Firm growth is widely studied at both theoretical and empirical levels. According to Gibrat law, the growth of

firms is independent of firm size. Empirical studies show that firm size and growth opportunity are rejected from the model, but few studies cannot be rejected for large firms. It is widely accepted that not only the size and age but also the various strategies affect the growth rate. It will not be possible to predict the use of existing and historical information about the operations of firms that result in company growth, although it cannot be foreseen. Empirical studies show that the data on corporate growth opportunity are systematic and unpredictable (Geroski, Machin, & Walters, 1997). According to the above literature we developed the following hypothesis,

H1. Ownership Concentration has negative relationship with corporate risk-taking behavior.

H2. Institutional ownership has positive relationship with corporate risk-taking behavior.

H3. Family ownership has positive relationship with corporate risk-taking behavior.

2.3 Growth opportunity and Risk-taking behavior.

Remember that the connection between development openings and endeavor hazard taking is as yet questionable (Soto & John, 2009). Studies demonstrate that organizations' readiness to go out on a limb by making a beneficial speculation is the principle long haul monetary development (Acemoglu & Zilibotti, 1997). Observational examination among UK organizations proposes that development openings are related with future development (Danbolt, Hirst, & Jones, 2011).

Corporate key venture expects firms to give assets to future development (Woolridge & Snow, 1990). High hazard taking by development firms can make potential speculation open doors revenue driven (Kogut & Kulatilaka, 1994). Development openings are imperative and regularly fortify the upper hand of firms and turn into the focal worries of corporate procedure. Corporate venture activities can be in interior or outside structures relying upon the requirements of firms. Firms can create profitable assets for upper hand, asset gathering inside the organization, and asset securing from outside the firm (Murale, Jayaraj, & Ashrafali, 2010). Outer corporate speculation incorporates joint endeavors and acquisitions, while outside corporate venture incorporates new establishments, cutting edge innovation, machine trades or product offering extension. Expanding request in development gives higher development openings and rivalry to drive chiefs to look for high-chance venture tasks to augment investor riches (Rajan, Servaes, & Zingales, 2000) . Intensity in the business urges firms to have high development open doors as hazard searchers from venture ventures (Pontiff, 2006).

Remaining organizations incline toward speculation ventures with high development openings prompting the organization's exceedingly capricious increases (Galai & Masulis, 1976). Expanding organization hazard builds the investors' value an incentive in the meantime and diminishes the market chance against investors. Firm development is broadly learned at both hypothetical and observational dimensions. As per Giralt law, the development of firms is autonomous of firm size. Experimental examinations demonstrate that firm size and development opportunity are rejected from the model, yet few investigations can't be rejected for substantial firms. It is generally acknowledged that the size and age as well as the different systems influence the development rate. It won't be conceivable to anticipate the utilization of existing and authentic data about the tasks of firms that outcome in organization development, in spite of the fact that it can't be predicted. Exact examinations demonstrate that the information on corporate development opportunity are deliberate and unusual (Geroski et al., 1997).

(Sah & Stiglitz, 1986) are examining for a fixed number of ventures. For this situation, adding more members to the basic leadership gathering would prompt the dismissal of unsafe undertakings and the acknowledgment of okay tasks. It is basic to check this parameter to look in danger taking among firms. At the end of the day, for organizations with a similar number of tasks, the effect of the extent of the board ought to be thought about. Unmistakably, in any case, organizations have a heterogeneous speculation opportunity.

Another potential job for substantial institutional speculators is to give a dependable instrument to exchanging data to money related markets, to different financial specialists. As indicated by (Chidambaran & John, 2000), huge institutional financial specialists can exchange the private data got from the administration to different investors. In any case, all together for such an observing to be dependable, the primary investor should keep up an adequate measure of speculation and get adequate offers to relieve the issue of free-driving. The outcome will be an acquiring for an administrator and a helpful chief for the corporate speculator who, now and again, makes costly checking to supervisory directors. Hence (Chidambaran & John, 2000) contend that this kind of checking is the most proper path for both extensive financial specialists and the executives. Then again, (Shleifer & Vishny, 1986)anticipate an expansive

investor who needs to assume responsibility for the firm. There are contrasts between the checking capacities and motivations of institutional financial specialists and the motivators of non-institutional huge square proprietors. (Gorton & Kahl, 1999) contend that institutional speculators might be erroneous on account of interior organization issues. Be that as it may, even the deficient observing given by the institutional speculator is invited by the investors, as there are insufficient individual blockers to give better checking. Consequently, in the Gorton and Kahl show, extensive venture financial specialists and vast non-institutional blockers are existing together as an organization screen.

According to the above literature we developed the following hypothesis,

H4. Growth opportunity has negative relationship with corporate risk-taking behavior.

2.4 Profitability, Firm size and Risk-taking behavior.

The reason for this is that the efficiency of a company is measured by its profitability. Similarly, (J. U. Ahmed & Karim, 2005) claim that firms are more comfortable when declaring unsatisfactory but not satisfactory information. Expected high earnings is good news for investors. It is foreseen that companies are willing to release such information without any delay and unwilling to release good or bad news.The works of (Berle & Means, 1932) also led to ongoing debate about the impact of ownership on firm performance. The effect of ownership type on various financial measures of a firm's performance (mainly profitability) has already been investigated, but the results are inconsistent: some studies show that there is no significant relationship between intensification of ownership and profitability (Demsetz & Lehn, 1985), others significantly (Hill & Snell, 1989). Apart from (McEachern, 1976) research and the analysis of the effects of (Salancik & Pfeffer, 1980) on the relationship between the owner's tenure and the firm's performance, no property type and performance study were considered more than two categories of ownership. Moreover, so far, no empirical study has examined the difference between high or low corporate ownership rates on firms' performance. (Chaganti & Damanpour, 1991)argues that these studies are insufficient in part to divide firms into categories that are controlled by the owner in only two categories and controlled by management. When externally controlled firms added a third category, it was found that both the owner-managed and externally controlled firms yielded significantly higher returns on shareholders' investment than those under management control; however, owner-managed firms earn more than externally controlled firms (McEachern, 1976). McEachern's term “externally controlled ifade refers to Mintzberg's“condensed detached ”. It is run by professional managers, such as companies in scattered and scattered categories. However, in the concentrated category, non-executive individuals or family owners can try to influence managers, while in the dispersed category, corporate owners can use their power. In general, external ownership is a source of power that can be used to support or oppose management, depending on whether management's actions comply with the owners' ideas of performance (Salancik and Pfeffer, 1980(Chaganti& Damanpour, 1991). Generally, company management feels more pressure to comply with its view on company performance as the equity ownership of external agencies increases. Corporate executives often complain that corporate investors have a short-term view of corporate performance. Apart from institutions, especially public pension funds, they accuse managers of self-protection and insufficient returns by emphasizing their interest in long-term goals and citing “corpocracy (Chaganti & Damanpour, 1991). However, money and pension fund managers are evaluated based on the financial performance of their funds. Therefore, they consider their assets to a large extent according to their financial performance criteria, a very small percentage can clearly measure long-term competitiveness, such as product quality in investment decisions (Chaganti & Damanpour, 1991)As the size of external corporate partnerships increases, so does the tendency of management to adopt the orientation of foreign investors towards the firm's performance. According to the above literature we developed the following hypothesis,

H5. Profitability has positive relationship with corporate risk-taking behavior.

H6. Firm size has positive relationship with corporate risk-taking behavior.

The methodology of research includes the research design, Research framework and Hypothesis development, measurement of dependent and independent variables and model of the research that detail are given below in each section.In research framework we took independent variables (Ownership structure- Ownership Concentration, Family ownership, institutional ownership) & control variables (Firm Size, Profitability & growth opportunity) separately. Our framework is as;

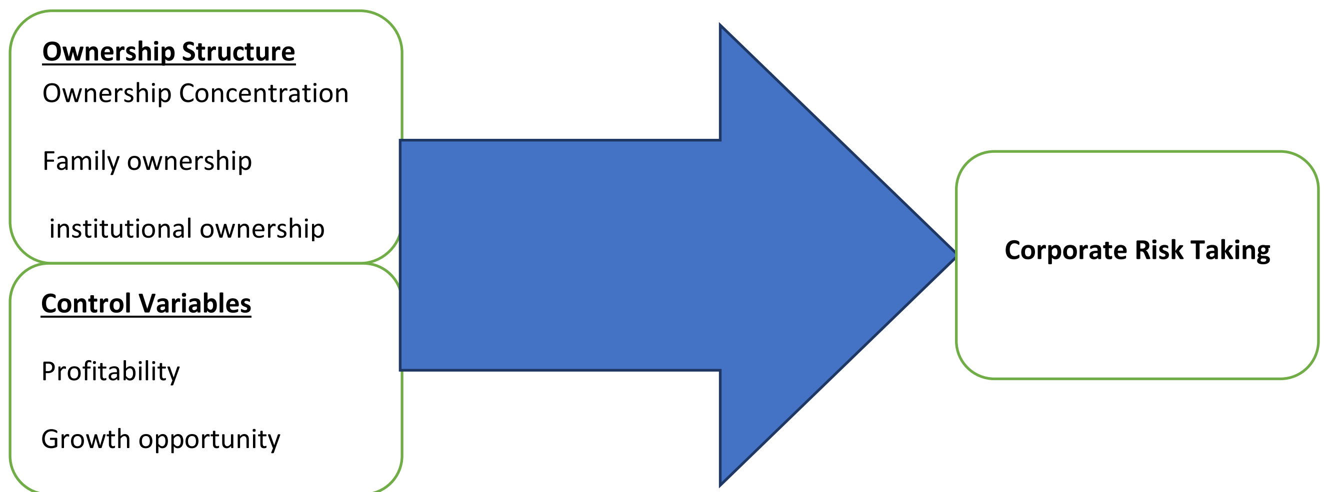

Figure 1: Conceptual Framework

III. Data, Sample, and Research Methods.

3.1 Data collection and Sample Selection

Our research includes the data of all firms listed in Pakistan stock exchange of which data was available for the period of eight years 2011-2018 and years firm's data. In our research two sector is taken as sample services and industrial and financial sector is not taken because financial sector has very strict corporate governance due to two regulators State bank of Pakistan and SECP. If we take in sample financial sector, then our results variate the results from reality due to strict rules and regulations and biasness in our research and that's why excluded from sample size. From non-financials listed firms we only included those firms which qualify our sampling criteria and have complete data for said time period. In selected data for 270 firms we left blank sheet where some values were missing. Our data is mixed & unstructured. Data of these firms are collected from the annual reports of the firms listed in Pakistan stock exchange from 2011-2018. Annual reports are being collected from firm's websites and Pakistan stock exchange website sector wise.

3.2 Variables Measurement.

3.2.1 Dependent Variable.

The given previous studies ((Soto & John, 2009); (Hilary & Hui, 2009); (Ghosh, 2016), this study uses volatility of corporate earnings as a proxy for corporate risk taking that also measures the level of firms' business risk (Paligorova & Santos, 2017). Risk Taking is the standard deviation of return on asset (ROA) over two(T-2) overlapping year. Volatility of returns is a standard proxy for risk taking in the literature (Nakano & Nguyen, 2012). Return on asset (ROA) is defined as the ratio of earnings before interest and taxes to total assets. In our research we take this proxy for firm's risk-taking behavior.

3.2.2 Independent Variables.

A firms' growth opportunities are measured using market to book ratio. Previous studies predict that growth opportunity increases the level of risk taking ((Rajan et al., 2000); (Cao, Simin, & Zhao, 2008). Ownership concentration is measured by number of person or family owned five percent or more share in total share. Family Ownership is measured by major (more than 50 %) share is hold by one member or family (Howorth, Rose, Hamilton, & Westhead, 2010).

The control variables include Firm size is measured using natural log of total assets of concerned firms. A large firm has various capabilities to use the scale economy and scope that helps the company work more effectively and create superior performance compared to a small firm (Penrose, 1959). Smaller firms are more risky than large firms because small firms have to take more risks to grow. Firm profitability is measured using return on asset (ROA), which is the ratio of earnings before interest and taxes (EBIT) to total asset and Firms profitability is also measured by Earning per share (Ibadin, Izedonmi, & Ibadin, 2012). A profitable firm investing in high risk-taking investment such as introducing new innovative products consequently making low profits in the main area of competition. The measurement of

independent variables and dependent variables are given below in table with previous effects and directions.

Table 1: Measurement of Variables

Variable Name	Sign	Measurement	Effect/Direction	Reference
Ownership concentration	**OCN**	Ownership concentration is measured by number of person or family owned five per cent or more share in total share	Significant relationship	(Ishak, Leman, Sapuan, Edeerozey, & Othman, 2010)
Family ownership	FOW	Ownership is measured by major (more than 50 %) share is hold by one member or family	Significant relationship	(Westhead, Cowling, Storey, & Howorth, 2002)
institutional Ownership	IO	Institutional ownership is measured by the percentage of institutional ownership of a firm	Significant relationship	(Gillan, Hartzell, & Starks, 2002)
Growth opportunity	**GO**	is measured using market to book ratio	Significance positive	(Gillan et al., 2002)
Firm Size	**FSIZ**	Firm size is measured using natural log of total assets	Significance positive	Penrose, 1959
Profitability	**PROF**	Profitably is measured by EPS	Significant relationship	(Ibadin et al., 2012)

3.3 Research Method.

$$CRT_{it} = \alpha_0 + \beta_1 OC_{it} + \beta_2 IO_{it} + \beta_3 FOW_{it} + \beta_4 POFIT_{it} + \beta_5 FSIZ_{it} + \beta_6 GO_{it} + \varepsilon_{it}$$

Where,
CRT=corporate risk-taking behavior.
IO=institutional ownership.
FOW=Family ownership.
OC=Ownership concentration.
GO=Growth opportunity.
FSIZ=Firm size
PROF=Profitability.

Looking at the previous studies, this study uses the ordinary Least square (OLS) for the panel Data. Econometric method (Balteş & Ciuhureanu, 2010); (Nakano & Nguyen, 2012); (Boubakri, Cosset, & Saffar, 2013) with standard errors corrected to perform regression models.

The OLS estimator depends on the underlying distribution of errors. Assumes that the unannounced error is normally distributed. Many different unobserved factors that affect company risk. Panel OLS the

regression model is still the preferred model because the normality of OLS Predictors are normally even true in larger samples (Vijverberg & Hasebe, 2015).

IV. Results and Discussion.

4.1 Descriptive statistics of variables.

In this section we discuss about the descriptive statistics of the variables that includes dependent and independent variable. We discuss about means value standard deviation with minimum and maximum values. All these values are given below in table.

Table 2: Descriptive statistics of variables.

	Means	standard Deviation	Min	Max
Risk taking	0.023	0.075	0.0003	3.806
Institutional investors	4	3.321	0	12
Family ownership	0.5	0.5	0	1
Ownership concentration	3	2.132	0	8
Growth opportunity	0.96	0.343	0.011	5.709
Firm Size	11.3	3.071	8.74	24.66
Profitability	22.57	35.16	-31.135	216.45

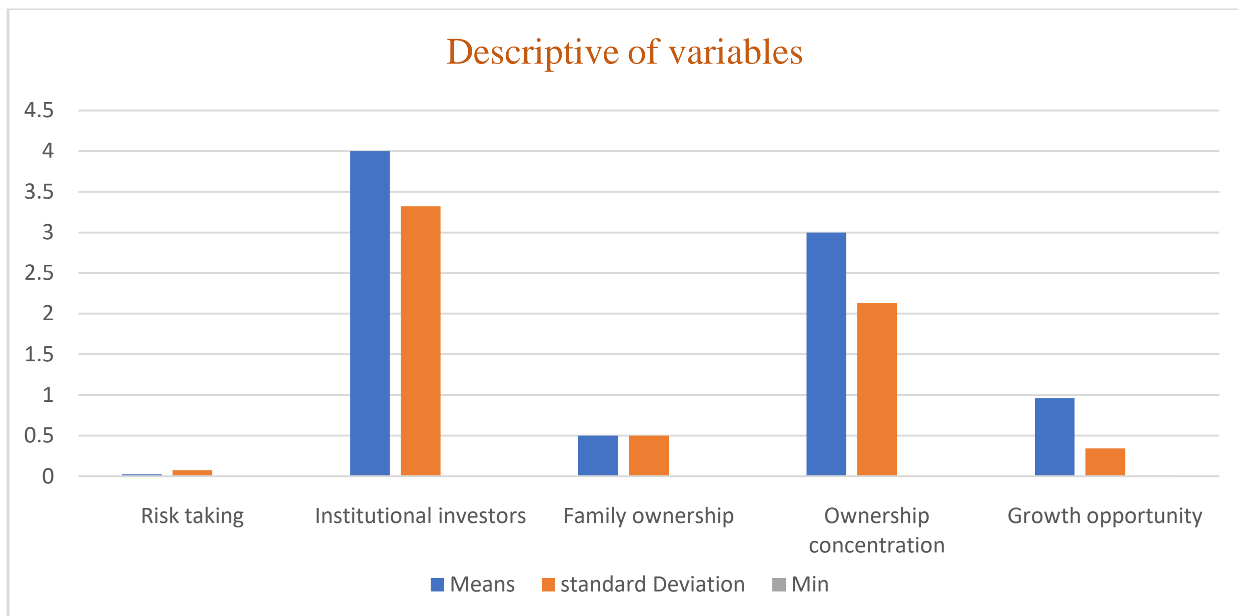

Figure 2: Descriptive of Variables

In our descriptive statistics risk-taking behavior of the firm is with means value of 0.023 it means that 2.3 % are average risk taken by the firms for generating their profit goals with maximum value of more than 300% and with the minimum of o.3% risk taking behavior. Risk cannot be zero value because it cannot be eliminated but it can be reducing as the firms can by making strong control and process by implementing various tools. Risk play an important role in firms' profitability. If risk department of the firm is stronger that can reduce risk that is very excellent management.

Institutional ownership has with means value of 4 intuitional investment in that firms with maximum 12 and minimum 0 institutions investment in that firms. Institutional ownership plays an important role in firms risk taking by using different tools of profit generating and huge skills of the risk department human

resource. In Pakistan we consider that there are mostly family owned firms but when we take data then according to our descriptive statistics 50% firms are controlled by the single person or the family. Ownership concentration has with means value of 3 it means that 3 persons has share that is more than 5% share or more in total shareholding. Growth opportunity has 0.96 means value it means that market to book ratio is an average of 96 %. It means that market value of the firms is greater than the book value of the firms and has growth opportunity in average firms. In related to firm size we take natural log of the total asset to decrease the huge value into small then our results are firms' size is means value of 11.30.

Table 3: Correlation Matrix

	IO	**CRT**	**FOW**	**GO**	**OCN**	**PROFIT**	**SIZE**
IO	**1**						
CRT	0.0844	**1**					
FOW	0.1811	-0.0762	**1**				
GO	-0.1443	0.086	-0.2097	**1**			
OCN	-0.0572	-0.4393	0.0185	-0.0493	**1**		
PROFIT	-0.0949	-0.2675	0.1779	-0.1782	0.3125	**1**	
SIZE	0.0975	0.0681	0.1822	0.0794	-0.0724	-0.0498	**1**

4.2 Regression Assumptions.

4.2.1 Multicollinearity.

Multicollinearity means when the relationship between two variables exceed the specific limit which is greater than or equal to 0.90 then the prescribed data has multicollinearity problem. In our data the correlation between the variables is less than 0.43 it means that there is multicollinearity is not existing in that data.

Table 4: Autocorrelation by serial correlation test.

Durbin Watson test value	**1.694**

The autocorrelation is also called the series correlation or independent errors. This assumption can be easily tested by the Durbin Watson test which shows the series correlations between the errors.

This test value is ranged from 0 to 4. The ideal value of Durbin Watson test is 2 or near to 2. If these values are equal to 2 or near to 2 then it means that errors are uncorrelated and then there is no autocorrelation.

In our study, the Durbin Watson test value is 1.694 it is near to 2 that is standard for Durbin Watson. It means that there is not presence of autocorrelation problem in data.

4.2.2 Endogeneity Problems.

Estimated models are increasing some econometric concerns. As pointed out by (Campa & Kedia, 2002), Graham et al. (2002), Laeven and Levine (2007) Bashee et al. (2019), Basheer et al., (2018), Certain specific factors that force the decision to be in a group may lead to risk taking. Therefore, in order to assess the impact of group differentiation on risk taking on its own, it is necessary to check the main factors that guide the group decision. Therefore, group distribution should be considered as an intrinsic result that optimizes risk taking if a set of external determinants of diversification is given. Therefore, evaluating the impact of the group on risk taking requires consideration of the internality of the decision to own shares in more than one company.

In pooled data endogeneity problem should be exist sometime. To see the endogeneity problem in data we take Lags value of the dependent variable(T-1). Because some time their previous value should be directly affected the results of our study. In our study we take Durbin Watson test that has results 1.694 that shows that there is no endogeneity problem exists in our data. If our results change with taking lags, then we take another lag value to see its full effect.

4.3 Regression Analysis.

Table 5: Panel Ordinary Least Square (OLS) Regression.

Variable Name	CRT Model Result
Institutional Ownership	-1.054** (-0.001)
Family Ownership	-0.086** (0.033)
Ownership concentration	-1.04** (0.0314)
Growth opportunity	1.701*** (0.001)
Firm Size	-3.032* (0.084)
Profitability	1.703** (0.034)

*Significant at 0.1, **significant at 0.05 level, ***Significant at level 0.01.

In our research institutional ownership has significant and negative relationship with risk taking behavior of the firm it means that when there is institutional ownership exist in corporation then risk mitigated, and firms has high value with minimum amount of the risk through the strong monitoring and controlling of the institutions and monitor performance regularly. In institutional ownership institutions has the investment of the other people and institution hire the services of the qualified person to control the risk and make diversifiable portfolio for getting high return on their investment.

In our research Family ownership and ownership concentration has significant and negative relationship with risk taking behavior of the firms. It means that family ownership and ownership concentration decrease the risk with increasing the profitability by using different tools. It depends on the meeting of the family board and concentration of the investors that invest more than 5 % or more through the problem solution on daily basis in way to fixation of the price and maintain risk. In this way our results also consistent with (Chen & Steiner, 1999), and (Paligorova & Santos, 2017).

Firm size has negative relation it means that large firms has various resources in shape of the human resource that has skillful in maintain the risk by also taking the advices of the experts.

In our research profitability has significant relationship with risk taking it means that profitability of firms consistently helpful in mitigation of the risk behavior in consideration for uprising the business activity and maintaining the profitability trend of the firms.

In our research growth opportunity has significant and positive relationship with risk taking, it means that when company has growth opportunity but has not human resource power that contain experts of managing risk in their department and they should improve their skills time by time. In initial stage firms has less experience of the risk management but firms have growth opportunity. These skills can be improved with the passage of the time. In some cases, sometimes firm's growth increasing with rapid speed, but their management skills are not up to date and that's why positive relationship. Our results are consistent with previous study (Soto & John, 2009); (Khaw, Liao, Tripe, & Wongchoti, 2016) that finds significant positive relationship with growth opportunity that stated management skills are not sometimes up to date with that speed in relation to growth opportunity of the firms.

Generally, results indicate that institutional ownership has significant and negative relationship with risk taking behavior of the firm. Family ownership and ownership concentration has significant and negative relationship with risk taking behavior of the firms. Firm size has negative relation it means that large firms has various resources in shape of the human resource that has skillful in maintain the risk by also taking the advices of the experts. Growth opportunity has significant and positive relationship with risk taking. In Pakistan there is few researches works on the ownership structure and risk behavior especially on the ownership concentration and family ownership. In our research family ownership, ownership

concentration and institutional ownership is taken because in mostly Asian countries has family and institutional owned firms.

V. CONCLUSION

Our research includes the data of 270 firms listed in Pakistan stock exchange for the period of 8 years 2011-2018. In our research two sector is taken as sample services and industrial and financial sector is not taken because financial sector has very strict corporate governance due to two regulators State bank of Pakistan and SECP. If we take in sample financial sector, then our results variate the results from reality due to strict rules and regulations and biasness in our research and that's why excluded from sample size.
In our research work we take some variables of the ownership structure that includes family ownership, institutional ownership and ownership concentration. Growth opportunity is also taken as control variable that has impact on the corporate risk taking with some other control variable are also includes in our study. In our study we see the relations of some independent variables on corporate risk taking.

5.1 Discussion and recommendation on the hypothesis.

Generally, results indicate that institutional ownership has significant and negative relationship with risk taking behavior of the firm. Family ownership and ownership concentration has significant and negative relationship with risk taking behavior of the firms. Firm size has negative relation it means that large firms has various resources in shape of the human resource that has skillful in maintain the risk by also taking the advices of the experts. Growth opportunity has significant and positive relationship with risk taking.
In Pakistan there is few researches works on the ownership structure and risk behavior especially on the ownership concentration and family ownership. In our research family ownership, ownership concentration and institutional ownership is taken because in mostly Asian countries has family and institutional owned firms.
In our research institutional ownership has significant and negative relationship with risk taking behavior of the firm it means that when there is institutional ownership exist in corporation then risk mitigated, and firms has high value with minimum amount of the risk through the strong monitoring and controlling of the institutions and monitor performance regularly. In institutional ownership institutions has the investment of the other people and institution hire the services of the qualified person to control the risk and make diversifiable portfolio for getting high return on their investment.
In our research institutional ownership has significant and negative relationship with risk taking behavior of the firm it means that when there is institutional ownership exist in corporation then risk mitigated, and firms has high value with minimum amount of the risk through the strong monitoring and controlling of the institutions and monitor performance regularly. In institutional ownership institutions has the investment of the other people and institution hire the services of the qualified person to control the risk and make diversifiable portfolio for getting high return on their investment.
In our research Family ownership and ownership concentration has significant and negative relationship with risk taking behavior of the firms. It means that family ownership and ownership concentration decrease the risk with increasing the profitability by using different tools. It depends on the meeting of the family board and concentration of the investors that invest more than 5 % or more through the problem solution on daily basis in way to fixation of the price and maintain risk. In this way our results also consistent with (Chen & Steiner, 1999),(Gadhoum & Ayadi, 2003).
Firm size has negative relation it means that large firms has various resources in shape of the human resource that has skillful in maintain the risk by also taking the advices of the experts.
In our research profitability has significant relationship with risk taking it means that profitability of firms consistently helpful in mitigation of the risk behavior in consideration for uprising the business activity and maintaining the profitability trend of the firms.
In our research growth opportunity has significant and positive relationship with risk taking, it means that when company has growth opportunity but has not human resource power that contain experts of managing risk in their department and they should improve their skills time by time. In initial stage firms has less experience of the risk management but firms have growth opportunity. These skills can be improved with the passage of the time. In some cases, sometimes firm's growth increasing with rapid speed, but their management skills are not up to date and that's why positive relationship. Our results are consistent with previous study (Soto & John, 2009)(Faccio, Marchica, & Mura, 2016) that finds significant positive relationship with growth opportunity that stated management skills are not sometimes up to date with that speed in relation to growth opportunity of the firms.

5.2 Implication of the study.

This study provided some important implication for policy makers, investors, government, academia and researchers.

To follow the corporate governance mechanism is essential for the firms that is helpful in governing the business successfully and efficiently. Our study is helpful for the law makers and policy makers to make a law frame work for the ownership structure, family ownership and risk taking by the firm's mechanism. Its successful already in our financial institutions that make a separate department that maintained risk on different kinds that is important for business growth and country development by seeing this type of research on risk taking.

Some research is conducted on corporate governance variables but some missing variables of corporate governance. In our study family ownership, ownership concentration and growth opportunity at the same time is new phenomenon that is helpful for researchers for further explanation. Financial user can take decision for the investment by evaluating the risk by using this type of the research and investor make investment on seeing financial analysis of the firms and evaluating risk.

5.3 Limitation of the study.

This study provides a clear vision about how board characteristics, ownership structure and growth opportunity effect risk taking in Pakistan. Current study has some limitations in order to interpret the results.

- Due to lack of disclosure some characteristics of board like Board knowledge and expertise, Board gender diversity, meeting, hiring, remuneration of directors. This is difficult because data is not available in their financial reports and on websites.
- In current study two sector is taken for analysis services and industry. The financial sector is not taken because financial sectors are regulated by SECP and state bank of the Pakistan and has strict rules and regulation.
- Due to the inability of the data, current research did not take some variables that effect risk taking behavior of the firms.
- In Pakistan there is lake of the separate risk management department in firms due to the low profitability margin and that's why risk data is very difficult to collection.

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