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Impact of Board Characteristics, Ownership Structure and Growth opportunity on Corporate Risk Taking. Evidence from Pakistan listed firms.

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Abstract: *Corporate risk taking is important for the firms for maximization of value. However, excessive risk may lead towards crisis. The primary objective of this study is to explore the relationship of board characteristics, ownership structure and growth opportunity with corporate risk-taking behavior in listed firms of Pakistan. This study uses data of 90 non-financial firms listed in PSX-100 index for the period of 2013 to 2017. In this study, quantitative methods such as, Pooled OLS, Fixed Effect and Random Effectpanel regression method are used to examine the relationship between variables. Overall results suggest that firm size,Board diligence, Family ownership, ownership concentration, the presence of the independent director in board composition and total number of the independent directors in board is negatively associated with risk taking. No relationship is found between CEO duality and risk taking. Whereas 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 activities.Growth opportunity has significant positive relationship with risk taking, it means that firms with growth opportunity has less efficient risk management system. In previous research government ownership, private ownership and foreign ownership was taken but family ownership and ownership concentration were not taken. In this research board characteristics, family ownership and ownership concentration are taken to examine the relationship. 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.*

Keywords: *Board characteristics, Ownership structure, growth opportunity and risk-taking behavior.*

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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 (Santos, 2013). Differences in risk preferences are some empirical interest in corporate finance, 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 (Kroll, & Parnell, 1996). Firms with higher growth opportunities encourage more risky investment projects to increase the value of firms (John, Litov and 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 value cannot be created without risk but taking excessive risk can damage companies (Carey and 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 (Jickling, 2010).Excessive risk-taking leads to large bankruptcies and results are felt in the world economy (Teodora, 2009). In short, excessive risk taking can trigger a systemic collapse of other firms or markets, such as dominoes.

In general, financial regulations focus on attracting the attention of management and investors on the assumption that investors will oppose excessive risk business initiatives (Schwarcz, 2015). However, agency theory argues that managers are more likely to decide for themselves and cannot always act in the best interests of stakeholders (Jensen &Meckling, 1976). Managers exposed to risky investments may ignore the demand for transparency of shareholders to avoid potential labor and capital market penalties (Vyas, 2009). However, while shareholders may require firms to take higher risks to increase the value of equity holders, managers are risky in securing a non-diversified human capital in a firm (Teodora, 2009).

Institutional investors are big investors who prefer the investments of others. Corporate investors include insurance companies (life and non-life), pension funds, investment trusts (including unit trusts), financial institutions (including banks, financial companies, construction companies and credit cooperatives), investment companies and other candidate companies (Lang and McNichols, 1989). The participation of institutional stakeholders has the potential to reduce agency conflict by monitoring management activities (Shleifer and Vishny, 1986). Institutional investors can influence companies to promote good corporate governance, because of their significant ownership (Ayoib and Abdullah, 2014). They also have the right and have the resources for accessing and monitoring information. In short, by leading to a culture of ownership, they can ensure that management works best for the benefit of shareholders (Securities Commission Malaysia, 2011).In this study, we examine how board characteristics, ownership structure and growth opportunities affect risk taking behavior of companies by using a sample of non-financial listed companies in Pakistan.

It is important to understand the impact of board characteristics and ownership structure on corporate risk-taking behavior in corporate investment decisions and to promote the growth and productivity of firms (John et al., 2008). 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 structure of ownership 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 board characteristics, family ownership and ownership concentration are taken to examine the relationship between risk taking firms.

In addition, the findings of this study could be a reference for reviewing existing regulations to improve corporate governance among Pakistan companies, which will help policymakers create more beneficial policies and help firms in Pakistan stay sustainable and promote Pakistan economy through the chain. reaction. For investors, they would have an insight into corporate risk-taking behavior of non-financial firms in Pakistan. This helps them make a better investment decision.

The findings may provide an understanding of how growth opportunities and risk taking are associated with company managers. This can help company executives improve their understanding of risk-taking among growth firms and ensure that growth firms are fit for long-term investments to improve firm values. This empirical work can improve the company's growth and reduce the risk of promoting economic

Agency theory demonstrates that administrator chance taking has distinctive applications in which supervisors can be hazardous practices and display dangerous practices. The attributes of office hypothesis accentuate the hazard practices of investors and administrators (Barney and Hesterly, 1996). Chiefs with proper motivators may confine their conflict with the interests of the investors and might be liable to fewer checking expenses to restrict the supervisors' irregular exercises. Along these lines, directors would not settle on superfluous choices to extend assets that would harm the abundance of investors. Then again, motivating forces may enable supervisors to make such move to remunerate investors.

The Tradeoff theory depicted how firms profit by obligation financing and value financing to adjust expenses and advantages. The capital structure is dictated by the harmony between the advantages of obligation and the expenses of obligation. Most corporate money writing uncovers that the way to remote exchange theory is tax assessment and the weight of liquidation. The duty indebtedness remote exchange point of view is that organizations balance the expense installments of the obligation against the expenses of insolvency.

II. Theoretical background and hypothesis development

2.1 corporate governance and corporate risk-taking behavior

In a previous paper, Kogan and Wallach (1964) contend that the size of the basic leadership aggregate decreases the propensity to go for broke. Customary thinking is that it is considerably harder to influence a more extensive friend gathering to settle on disputable rulings against potential negative blunders. Then again, the protection of a reasonable option is not probably going to be met by a brutal restriction. He presumed that vast gatherings should express direct positions speaking to a tradeoff between the individual places of the gathering (Moscovici and Zavalloni, 1969). In a comparable report, Bar et al. (2005) analyzes the conduct of exclusively oversaw and group oversaw speculation reserves. Their fundamental discoveries are that the assets overseen by the group are probably not going to go astray from the supposed venture styles. These assets demonstrate a

higher inclination for crowd than individual oversaw reserves. The outcome is a noteworthy contrast in productivity unpredictability between two kinds of assets, yet there is no reasonable distinction in normal returns. Sah and Stiglitz (1986, 1991) figured that a gathering's ultimate conclusion mirrors a trade off between the contradicting perspectives on each gathering part. For instance, awful undertakings will in general be dismissed just in the event that they concur that there are sufficient gathering individuals for good tasks. In any case, supporting great tasks requires a comparable agreement among gathering individuals. This leads vast gatherings to pick normal undertakings that will in general be increasingly steady.

Cheng (2008) demonstrates that US firms with bigger sheets are related with lower execution unpredictability. In like manner, Adams and Ferreira (2010) found that bunches were less extraordinary in wagering choices than Bar et al. (2005) demonstrate that the venture reserves overseen by the group will in general stray less from the speculation styles than the individual speculators. In this article we attempt to address two inquiries. Our first inquiry is whether the measure of the board's effect on corporate hazard taking has spread to Japanese firms. There are a few motivations to speculate that the outcomes might be unique. Japanese sheets are normally loaded with insiders (Abegglen and Stalk, 1985). Their duties are more extensive than in the US. As indicated by the Japan Commercial Code, the board isn't in charge of supervising the organization's issues but on the other hand is in charge of settling on the execution of the business. Basic leadership is commonly progressively normal and requires more exertion to achieve accord (Hofstede, 1980).

Wiersema and Bird (1993) underscore the homogeneity of Japanese associations and demonstrate that supervisors with various profiles are bound to leave the organization; this further builds the trustworthiness of the present perspectives in the association. Japanese business culture is described by a low dimension of independence, particularly as to the US (Hofstede, 1980). At the board level, these highlights (ie, greater consistency in the executive's profiles and more prominent reasonableness in showed conduct) are the consequence of the expansion of less administrators and greater decent variety of thoughts. In this manner, business hazards in Japan can't be decreased in connection to the extent of the board as in the US (Cheng, 2008). Our second inquiry is whether development openings assume an unobtrusive job in the connection between board size and hazard taking. The fundamental model of Sah and Stiglitz (1986, 1991) expect that all basic leadership units assess a similar number of tasks. Just the extent of the unit changes. Be that as it may, organizations frequently have a heterogeneous venture opportunity. Hence, there is no motivation to trust that for a firm with appealing speculations and for a less investable organization, the effect ought to be the equivalent. Truth be told, we advocate that the negative effect of a substantial board ought to be heavier for organizations with high and feeble development. This is in such a case that a firm has countless, these undertakings should be assigned and assessed to littler sub-gatherings, with the goal that every one of these sub-gatherings can adequately assess a similar number of activities yet builds up a littler, less-recommended firm. Therefore, increasingly dangerous undertakings were freed from the screening procedure. Our observational research incorporates some hazard measures. In parallel with Cheng (2008), we gauge the dispersion of the execution of an organization after some time by utilizing the working pay, book and stock returns, and the market estimation of the advantages. We at that point partner these hazard markers with other key firm attributes, for example, normal board size and firm size and influence. In any case, since these hazard pointers disregard data on inner execution changes, our second methodology is to quantify the hazard with total deviation from the normal execution of the organization. Adams et al. (2005) and Sanders and Hambrick (2007), at that point we use board relapses to relate these hazard measures with board estimate. The negative connection between the measure of the board and the hazard may mirror a parity where the two factors are mutually characterized as the response to the professional workplace (Hermalin and Weisbach, 2003). For instance, organizations may consider little sheets that are increasingly fit to dangerous business conditions. For this situation, lessening the span of the board does not present more dangers. Then again, the possibility that the hazard is identified with the unpredictability of the association's exercises demonstrates that unsafe firms need to work with bigger sheets since they need more guidance and observing (Coles et al., 2008). So as to decide the outer change in the extent of the board, we utilize the company's free buoy since it is impossible that the offers disseminated to the open will incorporate the board portrayal. In the meantime, changes in open revelation ought not influence the organization's corporate administration and hazard taking motivators, particularly in light of the fact that it is incorporated into the corporate property chance relapse. This instrumental variable methodology delivers marginally bigger coefficients for the board estimate. In any case, externality tests demonstrate that the thing that matters isn't factually noteworthy with OLS gauges. This investigation adds to expanding writing on ideal wood structures. In a fundamental article, Yermack (1996) demonstrates that organizations with littler sheets show elite. Be that as it may, Coles et al. (2008) demonstrates that this impact relies upon the qualities of the firm. At the point when organizations need more proposals and observing, they really advantage from working with bigger sheets. This may clarify why past examinations have discovered opposing outcomes on the effect of the extent of the card on firm execution (Dalton, Daily, Johnson and Ellstrand, 1999). Essentially, these investigations have included organizations that have profited by extra assets

on bigger sheets with different firms, where bigger sheets have prompted higher coordination issues. Our center is to go for broke. In spite of the fact that Cheng (2008) claims that the bigger councils by and large bear the danger of going out on a limb, our first commitment is to demonstrate that this impact relies upon the piece of the board. All the more correctly, as in Japan, boards with higher homogeneity are more averse to impact the decision of dangerous activities with expanded measurements. Our second commitment is to demonstrate that the impact of board estimate relies upon the association's venture openings.

Cheng (2008), applying this idea to corporate sheets, is a proof that the bookkeeping and market-based execution of firms with bigger sheets is altogether less factor. Organizations with bigger sheets likewise appear to pick less dangerous ventures than examiners' littler evaluations of income gauges. For monetary foundations, Pathan (2009) demonstrates that board measure is related with low return instability. The outcomes are solid against elective hazard measures, for example, the proportion of low-intrigue advances, which are probably going to reflect Z score, or hazard loaning rehearses. In view of the idea of control in gatherings, we can abridge the primary theory owing to Chen (2008). On the basis of the above literature we developed the following hypothesis of the corporate governance,

H1. Board independence has negative relationship with corporate risk-taking behavior.

H2. CEO duality has negative relationship with corporate risk-taking behavior.

H3. Board diligence has negative relationship with corporate risk-taking behavior.

2.2 Ownership structure and corporate risk-taking behavior

The job of corporate ownership significantly affects organization esteem. Past examinations have demonstrated that the nearness of institutional financial specialists adequately impacts the association's fairly estimated worth (Shleifer and Vishny, 1986). Observational discoveries propose that the job of institutional financial specialists influences unnecessary returns (Barclay and Holderness, 1990). Such speculators can screen chiefs productively in light of the fact that there are great motivating forces to emphatically impact the association's esteem. The checking pretended by institutional financial specialists has been appeared to conceivably reduce the lower ideal choices of supervisors.

In spite of the fact that the institutional speculator positively affects the estimation of the organization, it might have negative impacts. Dynamic observing of institutional speculators can just improve the estimations of firms at a specific offer dimension, however when the dimension of corporate ownership surpasses a specific dimension, dynamic checking of institutional financial specialists can possibly antagonistically influence the estimation of firms (Salehi, Hemaifar, Heydari, 2011). To put it plainly, the job of institutional organizations in observing the basic leadership procedure of organizations may harm the corporate estimation of higher ownership because of oversight.

Iqbal and Mirakhor (2011) expressed that over the most recent 20 years, banks confronted just credit and market chance, however at this point banking business has changed over some undefined time frame and they are currently presented to numerous dangers because of new items. recently posted. The requirement for hazard the executives is considered as a result of the accompanying components and changes in the market: First, the rising business sector variance after the breakdown of Breton Woods' trade rates framework has caused flimsiness in return rates and loan fees. Second, the expansion in new items in the subordinates advertise expanded the requirement for hazard the board framework in budgetary establishments to control the dangers related with new items.

Regardless of whether the predominant investors have solid motivations to watch supervisors and even perform notwithstanding when they keep their execution low, organization disadvantage in organizations with an objective ownership structure can likewise be moderated (Franks, Mayer and Amp, 2001). Consequently, it is assessed that going out on a limb is more articulated than an organization with an ownership structure spread to organizations holding ownership. Numerous examinations (Haw et al., 2010) have demonstrated that focused property the executives is related with more serious dangers. Family organizations may abstain from going out on a limb as a result of their aims by moving an association to the subsequent age (Anderson, Mansi and Reeb, 2003).

Chun et al. (2011) archived the effect of managerial ownership on the hazard taking of Japanese and Korean banks. They presumed that best in class the executive’s ownership expanded the danger of Japanese banks and did not build the all-out danger of banks in Korea. Chou and Lin (2011) directed an examination to inspect the effect of different kinds of property on banks' hazard taking in Taiwan. They inferred that keeps money with high and regulatory ownership are high-hazard and state-claimed banks are at lower chance. Ianoatta et al. (2012) analyzed an extensive example of European banks and guaranteed that state ownership in banks is emphatically identified with operational hazard and adversely connected with default chance. Garcia-Marco and Robes-Fernandez (2008) have chosen the Spanish banks, where government banks are going for broke. Shleifer and Vishny (1986) proposed that outside investors, for example, investors holding vast casting a

ballot rights, among blockers and foundations fundamentally influence the danger of bank hazard. On the basis of the above literature we developed the following hypothesis,

H4. Family ownership has negative relationship with corporate risk-taking behavior.

H5. Ownership concentration has negative relationship with corporate risk-taking behavior.

2.3 Growth opportunity and corporate risk-taking behavior

Remember that the connection between development openings and endeavor hazard taking is as yet questionable (John et al., 2008). Studies demonstrate that organizations' readiness to go out on a limb by making a beneficial speculation is the principle long haul monetary development (Acemoglu and Zilibotti, 1997). Observational examination among UK organizations proposes that development openings are related with future development openings (Danbolt, Hirst, and Jone, 2011).

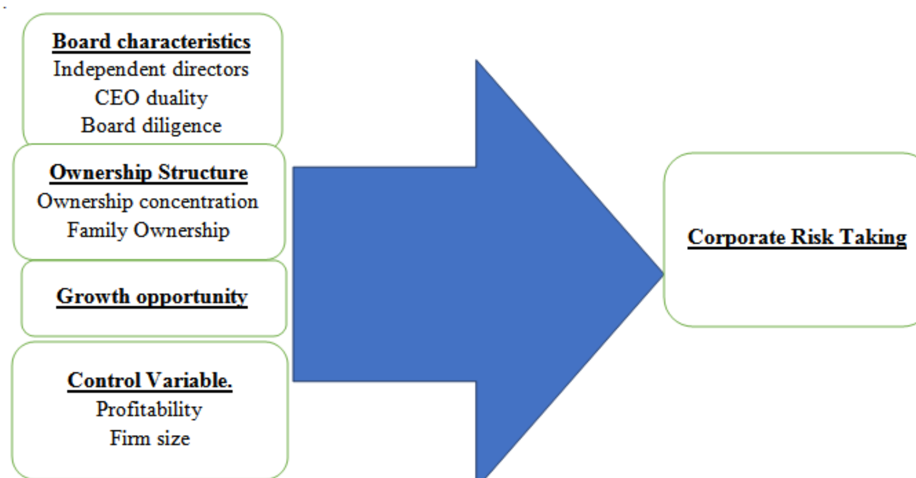
Corporate key venture expects firms to give assets to future development (Woolridge and Snow, 1990; Amram and Kulatilaka, 1990). High hazard taking by development firms can make potential speculation open doors revenue driven (Kogut and Kulatilaka, 1994). Development openings are imperative and regularly fortify the upper hand of firms and turn into the focal worries of corporate procedure (Woolridge and Snow, 1990; Hayes and Garvin, 1982; Kester, 1984). 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 (Dierick and Cool, 1989). 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 (Zingales, 2000; Cao, Simin and Zhao, 2008). Intensity in the business urges firms to have high development open doors as hazard searchers from venture ventures (Pontiff, 2004).

Remaining organizations incline toward speculation ventures with high development openings prompting the organization's exceedingly capricious increases (Galai and 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 Gibrat 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, Machin and Walters, 1997).

Observational proof of whether institutional financial specialists are really doing compelling checking is to some degree confused. For instance, Hartzell and Starks (2003) give exact proof that institutional speculators offer checking observing in implementation pay contracts. In the first place, they locate a positive connection between the power of organization proprietorship and the compensation affectability of an association's act pay. Second, they revealed a negative connection between organization possession focus and paid pay. One aftereffect of these outcomes is that, in the light of the hypothetical writing on the job of the primary investor, the organizations have a more noteworthy effect when there is more prominent corresponding danger in firms. Correspondingly, Chung, Firth, and Kim (2002) expressed that corporate supporting additions would be increasingly hearty in organizations with progressively institutional speculator possession, in light of the fact that the establishments would apply weight on firms to embrace better bookkeeping approaches. The income the executives will most likely settle the advantage with the goal that it won't profit the supervisors. Obviously, when institutional financial specialists have an extensive level of the offers of an organization, they find less deft profit the executives (less utilization of discretionary accumulations). Interestingly, Renneboog (2000) does not discover proof of a checking job by institutional financial specialists in the Belgian stock trade. Some exploration looks at the connection between an organization's complete organization proprietorship and R and D speculation and inspects the effect of corporate property on the board conduct, yet these outcomes achieve blended outcomes. Bange and DeBondt (1998) locate that institutional speculators are less benefit the board (innovative work) on the off chance that they have a more noteworthy offer of the organization. Others guarantee that foundations assume a critical job. Moreover, Leuz, Nanda, and Wysocki (2003) demonstrate that distinctions in property focus may influence income the board in a specific nation, however don't unveil contrasts in profit the executives between nations. At long last, Dahlquist, Pinkowitz, Stulz and Williamson (2002) contend that property proprietorship, which is basic in numerous nations, clarifies financial specialists' partialities of lodging. According to the above literature we developed the following hypothesis,

H6. Growth opportunity has negative relationship with corporate risk-taking behavior.

2.4 Conceptual Framework



III. Research design

3.1 Sample description

Our research includes the data of 90 firms listed in Pakistan stock exchange for the period of five years 2013-2017 and has 450 observations. Data is collected through random sampling methods throughout the sectors. In our research two sector is taken as sample services and industrial manufacturing 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.

Data of these firms are collected from the annual reports of the firms listed in Pakistan stock exchange from 2013-2017.Annual reports should be collected from firm's websites and Pakistan stock exchange website sector wise.

3.2 Variable definitions

3.2.1 Dependent variable

Risk-taking is the standard deviation of two (T-2) overlapping years of asset return (ROA). The volatility of returns is a standard proxy for taking risks in the literature (Faccio et al., 2011). Asset profitability (ROA) is defined as the ratio of earnings before interest and taxes to total assets. In our research, we refer to this proxy for risk taking behavior of the firm.

Esty (1997) used the standard deviation of daily bank returns every year and Cebenoyan et al. (1999) used the risk rating of the bank in conjunction with other credit composition risk measures. Covitz et al. (2004) uses incomes for capital-like debts.

3.2.2 Independent variable

Institutional ownership is measured by the percentage of institutional ownership of a firm (Hartzell and Starks, 2002). A firms' growth opportunities are measured using market to book ratio. Previous studies predict that growth opportunity increases the level of risk taking (Zingales, 2000).

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 et al., 2011). 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.

Variable Name	Sign	Measurement	Reference
Independent director	**IND**	measured by ratio of non-executive directors to total number of directors on the board	Ismail et al. (2008), Abdel salam and Street (2007) and Afify (2009)
CEO Duality	**CEO**	measured by 1 if CEO-Chairman roles combined; 0 if separated	Gill & Mathur, (2011); Afify,(2009)
Board Diligence	**BDI**	measured by the number of board meetings held during the financial year	Greco (2011); Hashim & Rahman, (2010)
Family Ownership	**FO**	Ownership is measured by major (more than 50 %) share is hold by one member or family	Westhead et al (2001)
Ownership concentration	**OWC**	measured by percentage of shares owned by investors who own five percent and more of the total firm shares	Ishak et al. (2010) Zureigat, (2011)
Growth opportunity	**GO**	is measured using market to book ratio (Tobin Q)	Zingales, 2000; Cao, Simin and Zhao, 2008.
Firm Size	**FSIZ**	is measured using natural log of total assets	Penrose, 1959
Profitability	**PROF**	Profitably is measured by EPS	Ibadin et al., (2011)
Risk taking Behaviour	**CRT**	standard deviation of return on asset (ROA) over two(T-2)	(Faccio et al., 2011; Boubakri et al., 2012; Nakano and Nguyen, 2012)

3.3 Methodology

$$CRT_{it} = \alpha_0 + \beta_1 IND_{it} + \beta_2 CEO_{it} + \beta_3 BDIL_{it} + \beta_4 FOW_{it} + \beta_5 OWC_{it} + \beta_6 GO_{it} + \beta_7 FSIZ_{it} + \beta_8 PROF_{it} + \varepsilon_{it}$$

Where,
CRT=corporate risk-taking behavior.
IND=independent directors in board.
CEO=CEO duality
BDIL=Board diligence (board meeting).
FOW=Family ownership.
OWC=Ownership concentration.
GO=Growth opportunity.
FSIZ=Firm size
PROF=Profitability.
Looking at the previous studies, this study uses the Pooled ordinary Least square (Pooled OLS) for the panel Data. Econometric method (Teodora, 2009) with standard errors corrected to perform regression models.

IV. Empirical findings

4.1 Descriptive statistics

In this 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 4.2 Descriptive statistics of variables.

Variables	Means	standard Deviation	Min	Max
Risk taking	0.023	0.075	0.0003	3.806
Independent director	1.78	1.99	1.000	4.000
Board Diligence	5.57	1.65	1.000	9.000
Ownership concentration	3.00	2.132	0.000	8.000

Growth opportunity	0.98	0.332	0.010	4.609
Firm Size	10.29	2.070	7.640	23.560
Profitability	20.53	32.26	-32.134	216.45

Independence director has means value 1.78 it means that mostly firms has approximately 2 independent directors in total board composition with minimum value of 1 and maximum value is 4 and that obey the rules of good corporate governance. According to corporate governance of Pakistan code 2012 at least one independent director in board. In Pakistan CEO has separate role from the chairman by means of 0.12. Board meeting with means of 5.57 it means that at least one meeting in each quarter. In Pakistan there are family owned firms with means of 50% firms are family owned. Profitability trend in Pakistan increasing day by day that shows EPS with means value of 20.53 rupees with minimum in negative and with maximum value is 216 rupees per share holding.

4.2 Multivariate analysis

Variable Name	CRT Model Result
Independent director	-1.876 (-0.002**)
CEO Duality	2.357 (3.931)
Board Diligence	-1.183 (0.061*)
Family Ownership	-0.096 (0.034**)
Ownership concentration	-1.140 (0.0314**)
Growth opportunity	1.937 (0.001***)
Firm Size	-5.342 (0.084*)
Profitability	2.865 (0.027**)

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

The above table results are from OLS estimation for risk taking behavior model where corporate risk taking is measured by CRT. The results suggest that presence of the independent director in board composition and total number of the independent directors in board is negatively associated with risk taking of the corporation. Our results are consistent with previous study of Chen and Steiner (1999) and Teodora (2009), who find that total number of the independent directors in board mitigates the high risk taking through strong monitoring and controlling of the management performance regularly. In this our hypothesis proved that independent directors reduce the risk taking by the firms.

In our research work there is no find evidence in support of hypothesis positive relationship between CEO duality and risk taking through the positive co-efficient. On the other side this study observes the several significant relationships that are consistent with previous studies ((John et al., 2008; Faccio et al., 2016).

The Board diligence, Family ownership and ownership concentration has negatively associated with corporate risk taking. Our results also consistent with Chen and Steiner (1999), and Teodora (2009), who find that frequency of meetings of the board, family owned firms and number of the investor holding 5% or more concentration of ownership mitigates the high risk taking through strong monitoring and controlling of the management performance regularly and discussion of the problems arisen in daily bases and fixations of the price and maintain risk.

In our research firm size has negative relationship with risk taking of the corporation and significant at 10% level. Our results are consistence with previous study that shows large firms has likely more stable operations in which return is less volatile and has proper risk management system and staff by using different types of risk mitigation methods and take advices of the experienced people that’s efforts are helpful in mitigation of risk. 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.

Growth opportunity has significant positive relationship with risk taking, it means that firms with growth opportunity has less efficient risk management system that should be improved time by time in initial that is week and it may be stronger with the passage of time. Sometimes firm’s growth increasing but their management skills are not up to date with that race and has positive relationship with risk taking. Our results are consistent with previous study ((John et al., 2008; Faccio et al., 2016) that finds significant positive relationship.

V. Discussion and conclusion

5.1 Discussion of results and theoretical contribution

Risk taking is very important determinants of profitability and decision making of the firms (Ravenscraft, 1983). The results suggest that presence of the independent director in board composition is negatively associated with risk taking of the corporation. Our results are consistent with previous study of Chen and Steiner (1999), Gadhoum and Ayadi (2003), and Teodora (2009). The Board diligence, Family ownership and ownership concentration has negatively associated with corporate risk taking. Our results also consistent with Chen and Steiner (1999), Gadhoum and Ayadi (2003), and Teodora (2009.In our research work there is no find evidence in support of hypothesis positive relationship between CEO duality and risk taking through the positive co-officiant. On the other side this study observes the several significant relationships that are consistent with previous studies ((John et al., 2008; Faccio et al., 2016).Some board characteristics includes in current study has finding significant relationship that mitigates the high risk taking through strong monitoring and controlling of the management performance regularly and discussion of the problems arisen in daily bases and fixations of the price and maintain risk.

Growth opportunity has significant positive relationship with risk taking, it means that firms with growth opportunity has less efficient risk management system that should be improved time by time in initial that is week and it may be stronger with the passage of time. Sometimes firm's growth increasing but their management skills are not up to date with that race and has positive relationship with risk taking. Our results are consistent with previous study ((John et al., 2008; Faccio et al., 2016) that finds significant positive relationship. According to the agency theory there should be separate role of CEO and Chairman. Our results are consistent with the agency theory. In our study some results are significant but a few like CEO duality is not significant relationship with corporate risk taking it means that there is no role of combined force of CEO in mitigation of risk. In our study we conclude that risk can be mitigated by the strong management skills and also using risk mitigation through strong management and controlling

5.2 Practical implication.

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 Limitations and roadmap for future research

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.

Corporate governance effects risk taking behavior of developed country and take comparison with developing nation or emerging economy. In ownership structure effect of managerial ownership, private institutional ownership and public institutional ownership effect should be a research part.Further study should be conducted on other risk taking and management structure. Further study should be conducted on the factors that influence the risk taking and risk determinants. Some other variables of the corporate governance like board expertise and experience, gender diversity in board, qualification of the board can be included in the future research to see the effect on risk taking.

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