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Effect of Corporate Diversification on the Value of Cash Holding



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Abstract: *The purpose of this research is to examine the relationship between corporate diversification on the value of cash holding. Furthermore, the research also examined the corporate diversification-value of cash holding relationship with good and poor corporate governance (CG); industrial competitiveness and industrial non-competitiveness; family and non-family oriented firms; Sharia and non-Sharia compliant firms. The data is used for the years 2017 to 2022 of non-financial firms registered on the Pakistan Stock Exchange. The result predicts that corporate diversification exerts a negative effect on the value of cash holding but this negative relationship becomes positive in good-governed firms, complete industries and Sharia label firms. On the other hand, corporate diversification exerts a negative effect on the value of cash holding in family-oriented firms due to agency problems.*

Key Words: Corporate Diversification, Corporate Governance, Competition, Sharia Compliant Firms, Pakistan

JEL Classification:

Introduction

The importance and implication of corporate diversification and its relationship with firm value are discussed in the literature by economists. The question arises as to whether corporate diversification is good or bad for the value of the firm. The agency problem is very much involved in corporate diversification which negatively affects the value of the firm (Lang & Stulz, 1994; Berger & Ofek, 1995; Denis, Denis, & Sarin, 1997). Cross-subsidization is involved in corporate diversification due to agency problems in which funds are transferred from productive projects to low-productivity projects (Rajan,

Sarveas, & Zingales, 2000). Personal benefits are more involved by managers in corporate diversification (Jensen, 1986). There are some ways through which managers gain benefits from corporate diversification. The foremost benefit is the non-diversifiable risk of the employment is minimized (Amihud & Lev, 1981). The second benefit is manager's control maximizes because firm size increases due to diversification (Jensen, 1986). The third benefit is that managers got value in the firm due to moving the company towards diversification in a particular mode (Shliefer & Vishney, 1989). The diversification on the basis of the above particular motives of self-interest

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managers becomes a cost for the shareholders and results in hampering the value of the firm. Rajan et al. (2000) postulated that comparing single stand-alone firms have fewer agency problems in comparison to conglomerates. The proper CG mechanism is very imperative in diversified firms to protect the shareholders of the company. Cash is more prone to agency problems compared to other classes of assets because it is very easy for managers to utilize it for their personal benefit (Dittmar & Mahrt-Smith, 2007). The question arises whether the corporate diversification relationship with the value of the firm becomes positive whenever CG is good. The previous major chunk of literature measured firm value through Tobin's q. We used the change in cash to measure firm value following (Faulkender and Wang (2006). The cash is very easily destroyed by entrench managers through involvement in corporate diversification and the value impact of diversification on cash holding value is more appropriate compared to Tobin's q.

Furthermore, we investigated corporate diversification with cash holding value under different settings besides CG like industrial competitiveness and industrial non-competitiveness; firms from family and firms from non-family; Sharia and non-Sharia label firms. Industrial competition forces management to work for the interest of the owners despite the internal CG is not good. Competition functions as a substitute for corporate governance for mitigating agency problems. Family ownership has also an important role in the corporate diversification-cash holding value relationship. Firms that belong to a particular family have agency problem i.e. controlling vs minority shareholder conflict. Members of the family in corporate diversified firms have tunneled the cash from good companies to poor performing companies to give benefits to their family and ignore minority shareholders' interest. Sharia label firms work as substitutes for CG because of the financial structure of Sharia label firms. The Sharia label firms must maintain certain financial ratios i.e. debt, liquidity and investment ratios to a certain level that limits management from expropriation. Furthermore, Pakistan

promotes Sharia firms and gives a rebate of 2% on the earnings of Sharia-label firms.

Literature Review

Corporate firms go towards corporate diversification and becoming corporate conglomerates is one of the debatable issues in the literature because of its imperative relationship with firm value. Cleasssens, Djankow, Fan, and Lang (1998) found a 14% to 16% reduction happen in the valuation of firms in Asian markets because of corporate diversification. While the pension fund administrators' presence reverts negative relationship of corporate diversification-value of the corporation, large institutional ownership plays no role (Espinosa et al., 2018)

The problem that exists in corporate finance literature is whether corporate diversification increases or decreases the value of the firm. The research (Doukas & Kan, 2006) postulated that up to a 12% decrease occurs in the value of firms due to corporate diversification in US firms. In the same way, Hund, Monk, and Tice (2010) on the basis of global data concluded that an 11% decreases occur in the value of firms due to diversification. The research conducted by (Lins & Servaes, 2002) reported (a 14-16)% decrease in the value of firms due to diversification in the Asian market. The researchers (like Glaser & Muller, 1998; Zahavi & Lavie 2013) postulated no relationship between diversification with the value of the firm. On the other side, researchers (Lee, Hooy, & Hooy, 2012) reported a positive relationship between diversification and firm value. The agency theory provides a plausible explanation for the corporate diversification-firm value relationship. The firm goes to the diversification of self-interested managers to destroy firm value (Lang & Stulz, 1994; Lins & Servaes, 1999). Pension funds as investors in a company change the negative diversification value of firm relationships (Espinosa et al., 2018). Self-interested managers achieved their personal benefits from corporate diversification at the cost of the owners (Jensen, 1986). The proper firm-level governance whenever goes to corporate

diversification to limit managers to gain private benefit.

Tong (2011) shows that the negative relationship of corporate diversification-value of firms becomes positive in the existence of proper CG. He further postulated that cash holding marginal value is higher in a single firm as compared to a diversified firm. The diversification increases cash marginal value in firms having good CG compared to firms having poor CG.

H1: Firm value is decreased due to corporate diversification

H2: Proper CG reverses the corporate diversification value of firm relationships and becomes positive.

The Role of Industrial Competition on Corporate Diversification-value of Cash Holding

Industrial competition works as external market discipline limits the managers from miss- utilization of corporate resources especially cash despite weak corporate governance (Alimov, 2014; Shah & Shah, 2018; Shah et al., 2021). The previous research identified that the agency problem is the main concern in corporate diversification that causes a decrease in firm value (e.g., Lang and Stulz (1994); Cleasssens et al. (1998); Tong, 2011). The substitution effect argument claims that competition is the substitution for firm-level corporate governance to reduce agency problems (Amman et al., 2011). This deduction of the following hypothesis occurs:

H3: Cash holding value is positively influenced due to corporate diversification in industries with high competition

The Role of Family Firms in Corporate Diversification- cash Holding Value

Family firms have a legacy that makes them unique compared to non-family firms. The internal market hypothesis explains the behavior of family firms that shift the investment of funds within a family group of companies (Anderson & Reeb, 2003). The internal market efficiency claimed that family

firms have the capability to tunneling the resources in good available projects within the family diversified group (Tong, 2011). On the other hand, the opposite explanation provided by the agency theory is that family firms get benefit from diversification on the cost of minority shareholders by tunneling the resources from the best projects to the worst projects (Brahmana, Setiawan, & Hooy, 2014). This led us to the following hypothesis

H4: Firm value is reduced in family firms due to corporate diversification

The Role of Sharia Label Firms in Corporate Diversification- cash Holding Value

The previous literature shows that in the presence of a proper governance structure, the diversification effect on the value of cash holding is reverted and becomes positive. Sharia compliance firms having corporate structures are used as an alternative measurement for CG (Ullah et al., 2022). Furthermore, Hayat and Hassan (2017) postulate that Sharia label firms in comparison to non-Sharia label firms have good CG (Hayat & Hassan, 2017). The substitution effect argument also supported that as an alternative by Sharia label to good CG, the self-interest managers are unable to miss-utilize the cash in Sharia-compliant firms despite the firms having poor firm-level governance. Sharia-label firms in Pakistan positively influence CG practices and good substitutes for CG (Ullah et al., 2022). On this basis, we deduce the following hypothesis

H4: Firm value has been positively affected by corporate diversification in Sharia-compliant firms.

Methodology

The data of 196 companies registered on the Pakistan Stock Exchange out of 496 non-financial companies. The sample is selected on the basis of a proportional sampling technique. The data is taken for the year 2017 to 2022. The 10 minimum companies that are operating in particular industries are included in the sample following (Shah et al., 2021).

Furthermore, the miscellaneous sector is not included in the sample. The sample is divided into good CG and poor CG firms; Firms belong to industries that are competitive or non-competitive; family firms belong to family or non-family; families belong to Sharia label or non-Sharia label.

Corporate Diversification Measurement

Corporate diversification is measured through a dummy variable. 1 is assigned for companies in particular years that belong to the group that exists in different industries other 0 is assigned for standalone companies.

Family Firms

The criteria of 25% ownership are in the hand of members of the family and quantify through dummy variable adoption (Kuan et al., 2011)

CG Measurement

The index of CG is constructed and the index is divided into terciles. The firms that belong to the first tercile were assigned 1 in a particular year indicating good CG firms and firms belonging to the medium and lowest tercile were assigned 0 indicating poor CG firms. The following variables are used to measure the corporate governance index.

Table 1

BS	Natural Log of Board Size
BI	Independent board members are divided by total board members
BM	per year total board meeting
AC	natural log of the audit committee
ACI	independent audit members divide by total audit members
CEO	
D	CEO duality dummy variable 1 for chairman and CEO different otherwise 0

Product Market Competition

HHI (Hirfindahl-Hirschmann Index) is used to measure industry competition. HHI is the measurement of concentration. The sale of the companies is divided by aggregated sales of the sector in a particular year that measures the market share of every company on the basis of sales. Square the market share and add the square market share. After addition divide it into terciles and assign 1 if the firm belongs to the industry at the particular year which is in the lowest tercile otherwise 0 for firms that belong to the industry that is in the first and medium tercile. Firms of competitive industries are assigned 1 and 0 for firms of concentrated industries.

$$HHI_j; t = \sum_{i=1}^{n_j} S^2_{ijt}$$

Value of Cash Holding

Previous massive literature used Tobin q for the measurement of firm value but we adopted Faulkender and Wang's (2006) methodology followed in this research for the corporate

diversification-value of cash holding relationship. We also explored the "corporate diversification-value of cash holding" relationship in different settings i-e good CG and poor CG firms; industrial competitiveness and industrial non-competitiveness; firms from family and non-family; firms from Sharia label and non-Sharia label.

$$R_{i,t} - RB_{i,t} = \alpha + \delta_1 \frac{\Delta C_{i,t}}{MV_{i,t-1}} + \delta_2 \text{diverf}_{i,t} + \delta_3 \text{diverf}_{i,t} * \frac{\Delta C_{i,t}}{MV_{i,t-1}} + \delta_4 \text{lev}_{i,t} + \delta_5 \frac{\Delta E_{i,t}}{MV_{i,t-1}} + \delta_6 \frac{\Delta D_{i,t}}{MV_{i,t-1}} + \delta_7 \text{Lev}_{i,t} + \delta_8 \frac{\Delta C_{i,t}}{MV_{i,t-1}} \frac{\Delta NA_{i,t}}{MV_{i,t-1}} + \delta_9 \frac{C_{i,t-1}}{MV_{i,t-1}} * \frac{\Delta C_{i,t}}{MV_{i,t-1}} + \frac{\Delta I_{i,t}}{MV_{i,t-1}} + \delta_{10} \frac{C_{i,t-1}}{MV_{i,t-1}} + U_{i,t}$$

The control variables i-e ΔX view the difference between current period t and previous period t-1. $R_{i,t}$ represents the return of individual firms at time t and $RB_{i,t}$ represents the portfolio that is taken as a benchmark and constructed on the methodology of (Fama & French, 1993) on size and market-to-book ratio. $\Delta(C, E, D, NA, I)$ shows change in cash, earnings, dividends, net assets and interest from previous period t-1 to

current period t . $C_{i,t-1}$ represents the previous period's cash. Lev represents the market leverage of firm i at time t . MV_{t-1} is the

previous period market value of firm i at time t . $Diverf$ represents corporate diversification 0 for stand-alone firms and 1 for diversified firms.

Result and Discussion

Table 2

Descriptive

	Ggov		pgov		comp		conc	
	mean	std	mean	std	mean	std	mean	std
CH_{t-1}	0.201	0.301	0.182	0.309	0.175	0.412	0.188	0.419
$mktlev$	0.642	0.276	0.601	0.267	0.648	0.286	0.642	0.296
	family		non-family		Sharia		non-Sharia	
CH_{t-1}	mean	std	mean	std	mean	std	mean	std
CH_{t-1}	0.196	0.416	0.192	0.411	0.203	0.502	0.172	0.458
$mktlev$	0.623	0.254	0.583	0.243	0.326	0.233	0.664	0.241

Table 1 portrays the descriptive variables that have been used in interaction terms to calculate the marginal change in cash.

Table 3

Effect of corporate diversification on the value of cash holding

	Full	Good CG	Poor CG	Indcom	Indconc	FamilyF	Non-familyF	shariahF	non-shariahF
ΔC	0.512 *	0.538	0.499	0.958 **	0.380	0.717 *	0.288	0.680	0.183
	(0.287)	(0.480)	(0.337)	(0.482)	(0.400)	(0.372)	(0.490)	(0.588)	(0.444)
$diverf * \Delta C$	-0.308 **	0.639 ***	-0.239	0.458 ***	0.226	-0.337 ***	0.102	0.604 ***	-0.157
	(0.112)	(0.189)	(0.153)	(0.160)	(0.180)	(0.127)	(0.297)	(0.154)	(0.199)
$diverf$	0.001	0.026	-0.020 **	-0.008	0.004	-0.014	-0.031	-0.012	0.021
	(0.030)	(0.052)	(0.010)	(0.037)	(0.039)	(0.038)	(0.043)	(0.037)	(0.041)
ΔE	0.020 **	0.007	0.040 ***	0.021 *	0.084 ***	0.022 **	0.108	** 0.037 ***	-0.032
	(0.008)	(0.015)	(0.014)	(0.012)	(0.023)	(0.011)	(0.043)	(0.010)	(0.026)
ΔNA	0.007 ***	0.012 ***	0.014 ***	0.004	-0.032 **	0.008 ***	0.028	** 0.008 **	-0.005
	(0.003)	(0.005)	(0.005)	(0.003)	(0.015)	(0.003)	(0.014)	(0.002)	(0.006)
ΔI	-0.130 ***	-0.252 ***	-0.056	-0.114 **	-0.534 ***	-0.131 ***	0.081	-0.210 ***	0.150
	(0.034)	(0.088)	(0.050)	(0.037)	(0.143)	(0.034)	(0.182)	(0.049)	(0.090)
ΔD	-0.149 ***	-0.170 **	-0.052	-0.142 ***	-0.019	-0.153 ***	0.692	* 0.044	0.127
	(0.044)	(0.086)	(0.068)	(0.054)	(0.098)	(0.047)	(0.361)	(0.093)	(0.133)
C_{t-1}	0.106 **	0.111	0.085	0.231 ***	0.155 ***	0.082 *	0.211	0.050	0.140
	(0.045)	(0.068)	(0.074)	(0.071)	(0.059)	(0.050)	(0.151)	(0.061)	(0.070)
$C_{t-1} * \Delta C$	-0.015 ***	0.190 ***	-0.009	-0.022 ***	0.062	-0.013 ***	-0.306	0.133 **	-0.011
	(0.005)	(0.063)	(0.007)	(0.006)	(0.061)	(0.005)	(0.289)	(0.053)	(0.008)
lev	0.223 ***	0.220 **	0.220 ***	0.238 ***	0.163 ***	0.225 ***	0.091	0.187 ***	0.322

	Full	Good CG	Poor CG	Indcom	Indconc	FamilyF	Non-familyF	shariahF	non-shariahF
	(0.052)	(0.109)	(0.058)	(0.069)	(0.079)	(0.072)	(0.079)	(0.058)	(0.071)
lev*ΔC	-0.659 **	-0.304 **	-0.697 *	-0.710 ***	0.309	-0.807 **	-0.012	-0.405 **	-0.098
	(0.313)	(0.153)	(0.389)	(0.410)	(0.543)	(0.425)	(0.607)	(0.205)	(0.402)
const	-0.128 ***	-0.214 ***	-0.091	-0.178 **	-0.073	-0.098	-0.097	-0.144 *	-0.120
	(0.060)	(0.118)	(0.069)	(0.088)	(0.074)	(0.086)	(0.080)	(0.083)	(0.082)
R2	0.060	0.138	0.065	0.091	0.119	0.068	0.085	0.098	0.077
F-statistics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
N	1500	540	960	700	800	920	580	610	890

Table 4.4 shows diversification- cash holding value. Column second presents diversification- cash holding value, column 3rd presents diversification - cash holding value relationship in good CG firms, and column 4th presents diversification- cash holding value in firms with poor CG. Column 5th represents diversification- cash value in industrial competitiveness, and column 6th represents diversification- cash holding value in industrial concentration. Column 7th represents diversification- cash holding value in firms of family ownership and column 8th represents diversification -cash holding value in firms from non-family. The ninth column represents diversification - cash holding value firms from *Sharia* label firms and column 10th firms from non-*Sharia label*. Term 1st represents the variable's coefficient and standard error in the bracket. *, **, *** shows significance at 10%, 5% and 1%.and "the models are run with industry fixed effect with time dummies and standard error cluster firm level".

Corporate Diversification-value of Cash Holding

The table shows the diversification- cash holding value relationship. The result of model 1 portrays that excess return is negatively affected by interaction terms of corporate diversification & change in cash. The agency theory supports the result that firms are involved in corporate diversification that reduces cash holding value. The management is involved in cross-subsidization and puts the money from good projects into poor projects

which decreases cash holding value. The above result postulated a reduction in cash holding value by 0.308 due to corporate diversification.

Diversification-value of cash Holding under CG

Model 2&3 basically divides the sample into good and poor governance. The result of model 2 shows that the negative coefficient of diversification and change in cash holding become positive in firms with good governance. The 0.639 that is interaction term coefficient shows that diversification significantly increases firm value by 0.639. The result shows that in good-governed firms investors give more value to corporate diversification compared to poor-governed firms and agency theory (Jensen, 1986) supported the result that agency conflict is a severe problem in diversified firms and could negatively affect firm value. The presence of proper governance alters the result. Tong (2011) also found that the negative effect of diversification- cash holding value change in the presence of good CG and he also claimed that the agency problem is the driving factor that reduces firm value due to corporate diversification. The cash marginal value due to corporate diversification in good-governed firms is 1.020. The marginal value of cash is calculated by adding coefficients of change in cash and interaction term by their mean and also adding the coefficient of diversification and change into cash interaction term $0.538+(0.19*0.201)+(-0.304*0.642)+0.639$. The

result shows that 1PKR more investment by investors could get 1.02 which is more than their investment. On the other hand, the excess return is negatively but insignificantly affected due to diversification - change in cash interaction term in poor CG. Investors normally negatively perceive investment in diversified firms as having poor governance due to agency problems. The H2 hypothesis of our research is accepted that corporate diversification exerts a positive effect on firm value in the presence of proper CG.

Model 4&5 split the sample on the basis of industrial competition and checked the diversification-cash holding value relationship. Competition in the product market works like an external market control mechanism and minimizes agency problems (Shah & Shah, 2018). The market for corporate control claims that managers despite internal poor corporate governance work to fulfil the interest of shareholders (Shah et al., 2021). The result predicts that diversification- change in cash interaction term coefficient is 0.458. The diversification increases cash holding value by 0.458 units for extra investment in industries where competition is high compared to those industries where competition is low. The marginal value of cash in diversified industries operating in competitive industries is 0.952 and calculated as $0.958+(-0.022*0.175)+(-0.71*0.648)+0.458$. On the other hand, diversification- change in cash interaction term coefficient posits positive but no significant effect on excess return in non-competitive industries. The value of the interaction term is less in concentrated industries compared to competitive industries. Hence our H3 hypothesis is accepted that corporate diversification - cash holding value is significant and positive in competitive industries.

Model 6&7 postulates the corporate diversification- cash holding value relationship in family and non-family firms. The different types of agency problems i-e agency problem 2 principle-principle conflict exist in family firms.

Family firms are involved in corporate diversification to draw the benefits for a

particular family. According to the empire-building hypothesis family members want to transfer the business to the subsequent generation and they build the empire and exploit minority shareholders for this reason involved in corporate diversifications at the cost of minority shareholders which is the classic example of an agency problem. The result shows that effect of interaction of diversification with change in cash has a significant effect on the value of cash holding in family firms. Family members associated with a particular family exploit the minority shareholders. The family wants to transfer the business to inherit and form a family empire according to empire empire-building hypothesis and be involved in corporate diversification. Family members that occupied important seats in the company tunnelled the resources from valuable projects to un-valuable projects to build an empire for their family on the stake of minority shareholders. The above analysis portrays that diversification-change in cash interaction coefficient has -0.337 negative and significant effects on firm value compared to the coefficient in non-family that 0.102. The result shows that investors perceived diversification negatively in family firms because of agency problems. The marginal value of cash in family firms for one extra rupee investment is -0.125 and calculated as $0.712+(-0.013*0.196)+(-0.807*0.623) +(-0.337)$. The investors get negative returns in family firms that are involved in corporate diversification for one rupee extra investment. Hence our H4 hypothesis is accepted that firm value is reduced in family firms due to corporate diversification. Model 7&8 shows corporate diversification-cash holding value in Sharia and non-Sharia label firms.

Sharia-label firms have different financial structures that match up to non-Sharia-label firms. Sharia label companies must keep definite financial ratios to particular limits like investment, liquidity ratio and debt ratios. The limits of certain ratios minimize agency problems and work as an alternative to internal corporate governance (Ullah & Rizwan, 2018). Researchers (Hayat & Hassan, 2017; Ullah et al., 2022) claimed that Sharia-compliant firms

work as a substitute for corporate governance and protect investors' interests despite of that internal corporate governance is not good. Sharia-compliant has fewer problems with free cash flow because of the maintenance of low liquidity in Sharia-compliant firms. Furthermore, the corporate diversification for Sharia-compliant firms is less compared to its counterparts because these firms only invest in halal businesses and firms that do not have much debt. The analysis postulates that corporate diversification-change in cash coefficient of interaction is 0.604. This means that extra Sharia-compliant firms that are corporate diversified increase firm value by 0.604. The marginal cash value in Sharia label firms, and also corporate diversified is 1.178 calculated as $0.68+(0.133*0.203)+(-0.408*0.326)+0604$. The one rupee extra investment by investors in corporate diversified firms belonging to Sharia label firms gets more return. In contrast, the corporate diversification-change in cash coefficient interaction term has -0.157 but is non-significant. The result claimed that investors negatively perceived corporate diversification in non-Sharia-compliant firms. Hence our H5 hypothesis is accepted that firm value is positively affected by corporate diversification in Sharia-compliant firms.

Conclusion

Corporate diversification is an important corporate decision because it affects the overvalue of the firm. Our study postulates the effect of corporate diversification on cash holding value. Previous research measured the relationship with Tobin Q as a proxy for the value of the firm. This research used Faulkender and Wang's (2006) methodology to capture the outcome of diversification on cash holding value. Cash is important because it is easily misused compared to other assets. The data was taken from annual reports and balance sheet analysis of SBP for the year 2017 to 2022. The corporate diversification- cash holding value relationship is checked under a battery of different scenarios i-e, proper CG, poor CG; Industrial competitiveness and non-competitiveness; Firms belonging to family and non-family; and firms from Sharia and non-Sharia labels. The result postulates that investors value less extra investment of cash in diversified firms. Furthermore, investors value cash more for extra investment in firms with good CG firms belonging to competitive industries and firms that are Sharia label firms. The investors negatively perceived the corporate diversification of family firms due to agency problems. The investors value cash in corporate diversified Sharia-compliant firms more than all other moderating variables. The result predicts that Sharia label firms have the capacity to control agency problems and have a substitution effect for corporate governance.

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