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RESEARCH PAPER

Cash Holding as a Risk Management Approach through the Lense of Institutional Entrepreneurship: Evidence from Financial Sector of Pakistan

Ali Raza Elahi[1] Safyan Majid*[2] Waqas Khan[3]

1. Assistant Professor, Department of Commerce and Finance, GC University, Lahore, Punjab, Pakistan
2. Lecturer, Department of Commerce and Finance, GC University, Lahore, Punjab, Pakistan
3. Ph. D Scholar, Department of Business and Management Sciences, Superior University, Lahore, Punjab, Pakistan

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***Corresponding Author**
alirazaelahi@gcu.edu.pk

ABSTRACT

The research is investigates the effect of hedging on cash holding of firm by using appropriate econometric technique. The examination is expected to see in the case of cash holding as well as hedging can be viewed as alternate tool for management of risk with choice of investment opportunities. A deductive approach is embraced to look at whether holding of cash as well as hedging supporting are seen as substitutive hazard management devices. In addition to execute quantitative approach and study used secondary data of public & private sector banks of Pakistan. The data was analyzed by used of specialty of STAT-12. Results revealed that cash holding reduced the risk of financial sector of Pakistan and worked as a risk management tool in lieu of hedging with considerable investment opportunities with removing underinvestment problems through the Lense of entrepreneurs. This study is provide the preference to financial sector of Pakistan to maintain level of cash holding of firms as well as used hedging in presence of cash holding. The model will also provide the opportunity of new investment that reduces under-investment problem issues then result is shape of risk management.

Introduction

In a decade of globalization, the management of risk has developed importance and furthermore become a basic lump of association's corporate strategy. The motivators for participating in hazard lessening exercises, diminished office expenses and abuse of budgetary assets. The defensive thought process in holding money, firms must make certain steady and secured access to monetary assets for future speculations. Managing risk is as important as doing business. Risk management has become a central point in making corporate strategy because modern financial theory suggests that managing risk adds value (Culp, 2002). The main incentives of the risk management are financial advantages exploitation and reducing the agency cost. The earlier studies highlighted that management of risk is

very crucial as well as important for organizations where possible financial distress, opportunities for the investment are high and volatility exists in cash flows (Marina & Niehausb, 2011). A major problematic matter for organizations is a possible under-investment issues that are agency problem that create to invest in higher riskiest projects at the expense of its creditors (Gay & Nam, 1998). Risk management is enable firms to invest in more risky projects without external funding. It also helps in reducing the burden of higher interest charges from the shoulder of creditors and covenants due to the reduced risk of nonpayment. Risk management also include reduction in financial distress, taking advantage of tax reforms and enabling managers to take a higher risk showing projects as well as uses of inside funding in favor of investment purpose (Culp, 2002).

Firms having volatility in cash flows can reduce volatility by hedging or by keeping excess cash to decrease impact of unpredicted proceedings. This type of strategic weapon is able to work like substitutes for risk management. Hedging helps to keep costly cash (Marina & Niehausb, 2011; Nance et al., 1993). Theory suggests that firms with hedging strategy hold less cash. Whereas the cash availability is a critical factor for the firm's survival in a situation, where firms are require to react fast to investment opportunities (Mello & Parsons, 2000). The motives behind holding cash are explained by Keynes (1930). Keynes described the two reason behind the cash holding; one is precautionary motive second is transaction motive. As far as the financial side is concerned, risk management approach reduced impact of uncertainties with the help of adds value (Allayannis & Weston, 2001; Froot et al., 1993; E. M. Miller, 1977; Myers & Majluf, 1984). Pharmaceuticals and bio mechanics industry is characterized by large Investment opportunities. Potential underinvestment in such industries is common problem which encourage risk management activities. The healthcare division has encountered critical modifications in the earlier decade (Sánchez & Yurdagul, 2013).

The earlier studies demonstrated that cash holding is the main key element of investment side but lack of understanding among empirical analysis in presence of hedging, investment opportunities as well as under-investment problems. The under-investment problem is also the main issue of developing country like Pakistan. Financial sector of Pakistan faces the cost of interest and other operational expenses. So financial sector need to keep cash in hand and also hedged in the same time for reducing the financial risk in the future and meet to these expenses and financial issue. This study fills this earlier study gap through relative study of cash holding reaction in presence of hedging, investment opportunities as well as under-investment problem issue. Basically investigate in this research whether an alternative relationship is stay alive among cash holding of firms as well as hedging in the presence of enormous under-investment problems or new investment opportunities. The research question is elaborated that Does cash holding reduced the risk of financial sector of Pakistan and worked as a risk management tool in lieu of hedging with considerable investment opportunities through the Lense of entrepreneurs?

Despite the fact that cash holding and hedging can hypothetically be viewed an alternative, this doesn't suggest that hedging firms ought not to cash reserves, but high cash reserves of the firms should be decreased.

Literture Review

Nadiri (1969) spearheaded study on money possessions by gathering information from US producing segment during the period 1948-64 gauge a framework involving sought stage of genuine cash equalizations. Outcomes demonstrated interest rate against cash is controlled in the form of loan cost, higher return on investment progress by and large value level, and element costs. At that point, Campbell and Brendsel (1977) directed an observational study by gathering information from US producing firms from 1953-1963 to inspect the effect of repaying parity necessities on the money possessions. Jensen (1986) scrutinized the connection among cash holding of firms and agency theory. Research outcomes established with the intention of supervisors desire to control bigger companies resultant in managing retain earnings further than optimal level.

Lipton and Lorsch (1992) and Yermack (1996) clarify that little top managerial staff are more powerful in basic leadership process than the bigger governing body. The bigger board size may bring about to hold overabundance trade out the firm. However, also discover proof that companies accumulate extra cash projected by trade off theory where administrators exploit shareholder wealth. It means that additional cash has huge short run influence on capital expenses, acquisition expenditure as well as disbursements to shareholders (Opler et al., 1999). Harford (1999) assessed a model of acquisition by using US companies during period since 1977-1993. The results explained higher cash holding companies are extra probable to take challenge of acquisitions then another companies. The value of stock indicates acquisitions value declined of higher cash holding companies. Dahya and Travlos (2000) what's more, CEO together with directorate plans the approaches including strategy identified with money property. Frank and Goyal (2003) examined pecking order concept and also its rationality on internal finance. The study discovered that though slightly accurate, corporations didn't monitor the theory of pecking order to the range that they had supposed.

Afza and Adnan (2007) concentrated on deciding position of corporate side of organizations working in Pakistan, crosswise over various organization levels or sizes as well as diverse enterprises. For this purpose utilization of data during period 1998-2005, development open doors, income, net working capital, influence, income vulnerability, and profit installments.

Harford (2008) has already conducted research on corporate governance addition with firm's cash holding. The results has highlighted that organizations with weak corporate governance configurations essentially have lesser cash reserves. Serrasqueiro and Caetano (2015) has also conducted research on pecking theory with used Swedish companies. This research is purely based on pecking theory and concluded that pecking order concept is useful as well as valid. It means that pecking order concept pursues to clarify a finest financing approach and use on capital arrangement resolution by together with the expectations of irregular information/data as significant aspect. The results further discover that several constrained organizations exhibit short cash holdings due to persistently short cash flows. Overall findings maintenance views that larger holding of cash by organizations due to expensive outsider funding (Denis & Sibilkov, 2010).

Gill and Shah (2012) has discussed about corporate cash holding in Canada with 166 samples of listed firms. Purpose to conduct this research was to highlighted causes of cash holding of business. Study outcomes illustrate the cash flow, leverage, organization size, market value of share, book value of share and working capital has significantly affects business cash holdings. This research has also contributed to literature on issues that decide the firm cash holdings. The results are also very valuable for financial supervisors, shareholder and financial consultants. This research is also the extension of judgments of Afza and Adnan (2007). Hardin et al. (2009) utilized a specimen of 1,114 firm-year perceptions for 194 value land speculation trusts during the period 1998-2006 from USA. Study results indicated that money property is contrarily identified with assets from operations, influence and inner advisement, and are straightforwardly identified with the expense of outside account and development open doors. Notwithstanding Simutin (2010) more research has been directed on money possessions and stock conduct. Harford et al. (2014) depict the expansion in real money possessions after some time to be relative of the increment in renegotiating hazard, a general pattern towards shorter obligation developments.

Yurdagul and Sanchez (2013) contended about the advantages of utilizing this proportion while exploring the explanations for more elevated amounts of corporate trade property out request to counterbalance the impacts of expansion and development of organizations. In the light of Tahir and Alifiah (2015), liquidity of firms are predominantly centered on exchange off among potential expenses as well as advantages of holding of cash. If firms are want to increase the liquidity side of business, hold the cash. Tahir et al. (2016) studies that different types of financial concepts like cash holding theory, trade off theory and pecking order theory or concepts is helping to decision making about how to firm manage the cash. This examination evaluates the degree at which money holding influences monetary execution of cited protection firms. Speculations defined in accordance by means of goal of assessment; Prior Research Strategic Plan for cash holding as well as time-planning information received what's more, the information regarding assessment is gotten with the help of book of accounts, yearly annual reports as well as record of insurance agencies (Amahalu & Beatrice, 2017)

Corporate governance shows huge brunt on holding of cash. Organization size doesn't matter in cash holding of a firm but it is internal and external corporate governance that is a key factor in decision making of holding cash by firms (Al-Najjar & Clark, 2017). Wieczorek-Kosmala et al. (2018) conducted a study to analyze the threats of bankruptcy with regards to risk management. They wrote that in previous studies execution of risk management is advocated in relation to bankruptcy threats with two dimensions of threats that are risk occurrence and risk severity. Risk affects performance of an organization in relation to unpredictable cash flows. According to Khan et al. (2019) structure of an organization affects cash holdings of a firm. Their study focuses on this effect. They selected single and multi-focused companies for their research.

Theoratical Framework

Cash Management Theory

The costs identified with thought processes that are incorporate business costs, inadequate ventures from lacking liquidity and office costs (M. H. Miller, 1977; Miller & Orr, 1966). The most pertinent those organizations hold the cash in business to overcome the under-investment issues. Those organizations hold less cash in business, it indicates less return rate of liquidity and administrative spending (Harford, 1999; Opler et al., 1999). Likewise, a firm that holds vast money saves builds the danger of being procured.

Hedging Theory

The Keynesian hedging concept (1930) has stated that the item prospects market dole outs as protection, as well as is dependably in backwardation, that permits producers in the direction of exchange hazard for danger payment. As danger diminishment can build organization esteem, it is primary thought process in supporting (Allayannis et al., 2001). Different methods of reasoning for supporting have likewise been produced during that time including higher obligation limit, dynamic expense rates, and lower expected expenses of monetary misery, secured inward financing and diminished data asymmetries (Froot et al., 1993; Modigliani & Miller, 1963; Myers & Majluf, 1984; Smith & Stulz, 1985). A weakness with supporting is high expenses of utilizing subordinates lacking knowing whether will really pay-off (Géczy et al., 1997; Smith & Stulz, 1985).

Cash Management and Hedging as Substitutes

Bolton et al. (2011) contend that money administration and subsidiaries supporting are correlative types of danger administration. The creators concentrate on monetarily compelled firms and expect to locate a mighty corporate danger administration system that outlines supporting strategies, money property, outer financing, payout, and corporate venture for fiscally obliged firms. The system is based on exact results as well as underlines significance of including interest for wealth while deciding level of money property (Froot et al., 1993; Graham & Smith, 1999). An objective money capital proportion is accordingly excessively restricted, making it impossible to clarify individual firms' wanted money levels. After detail discussion of earlier studies and highlighted concepts of theorems the study proposed following research model.

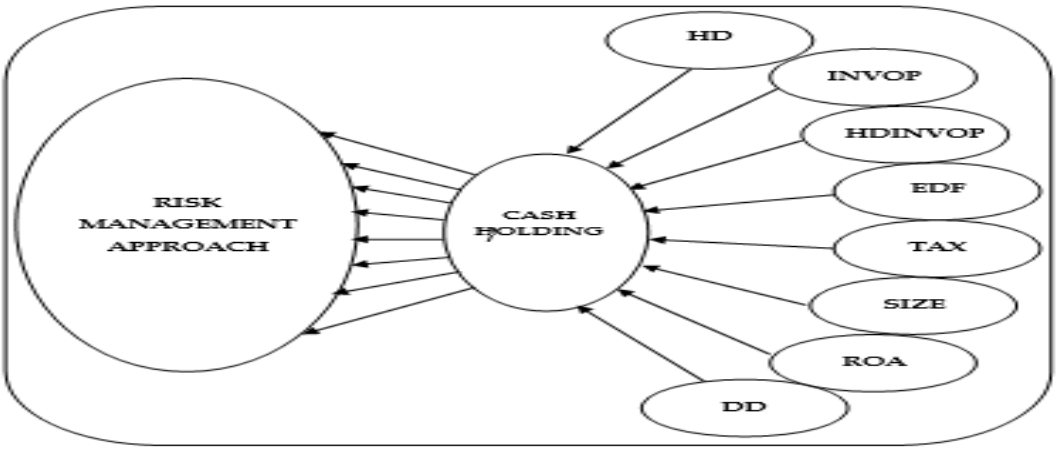

Figure 1: Conceptual Framework

Material and Methods

A deductive approach is embraced to look at whether holding of cash as well as hedging supporting are seen as substitutive hazard management devices (Whitta-Jacobsen, 2002). In addition to execute quantitative approach, to investigate numerical information as well as distinguish causal-effect connections among holding of cash as well as hedging exercises. This study used Secondary data collected for analysis purpose. I choose the financial sector for this study such as Public & Private Sector Banks. The study is covering 12 years period data of Public & Private Sector Banks from (2008-2019) which are listed in Pakistan Stock Exchange. Data of financial annual reports are also available on company's websites that is used for the analysis of financial profitability's and performance of the organizations.

The criteria to choose qualified finance related organizations between years 2008 to 2019 is specified underneath:

- The organization must be enlisted in Pakistan Stock Exchange (KSE) proceeding June, 2019. Financial year need to begin first July and end in June.
- The organizations starting and ending period should not to fluctuate budgetary year amid the exploration time frame.
- All the organizations are winning benefit from beginning to end stud period.
- Equity side of every organization should be positive from beginning to end study time.

Ratio scale is used as best degree for measurement. The components of time scale period collectively no level or even limited origins. Variables that effect on Ratio Scale like lengths, weight including time. Subsequent to gathering the information or data, from the examined monetary yearly proclamations (STATA-12) uses to compute comes about through the usage of reasonable regression model and technique. Regression technique is used in this exploration for the reason that examination wishes to look at this association related with various variables on single variable (Pallant & Manual, 2007). The examination is highlighted connection among cash holding as well as hedging, also linked with under-investment problem. The research is depending on following below mentioned variables

Table 1
Variables Details with References

Sr. No.	Description	Constructs	References	Formulas
1	Dependent	Cash Holding	Khadem and Pettersson(2013) (Bjørndalen & Nilsson, 2015) Tahir and Alifiah (2015) Amahalu and Beatrice (2017) Wieczorek-Kosmala et al. (2018) Khan et al. (2019)	= Cash Holding of firms / Total Assets of firms
2	Independent	Hedging	Najafi-Tavani et al. (2014) Bjørndalen and Nilsson(2015)	= Hedging = 1 No Hedging = 0
3		Investment Opportunities	Bjørndalen and Nilsson(2015)	= Research & Development Expenditures + Capital Expenditures / Total Sales of Firms

4	Hedging Investment Opportunities	Bjørndalen and Nilsson(2015)	= Investment Opportunities x Hedging
5	Expected Default Frequency	Bjørndalen and Nilsson(2015)	Market Value of Assets x Assets volatility x Default Point
6	Tax	Bjørndalen and Nilsson(2015)	= Net Operating Loss / Total Assets of Firms
7	Size	Bjørndalen and Nilsson(2015)	= Total Assets of the Firms
8	Return on Assets	Bjørndalen and Nilsson(2015) Tahir and Alifiah (2015) Amahalu and Beatrice (2017)	= Net Profit / Total Assets of Firms
9	Dividend	Khadem and Pettersson(2013) Bjørndalen and Nilsson(2015) Tahir and Alifiah (2015)	= Dividend =1 No Dividend = 0

The above mentioned variables and study proposed following hypotheses:

H1= There is a significant relationship between cash holding and hedging activity of firm.

H2= There is a significant relationship between cash holding and Investment opportunities of firm.

H3= There is a significant relationship between cash holding and hedging investment opportunities.

H4= There is a significant relationship between cash holding and performance kit.

The above mentioned variables highlighting the following below mentioned empirical models for research:

Model 1: $CHit = \alpha 0 + \alpha 1(HD)it + \alpha 2(INVOP)it + \phi(K)it + \varepsilon it$

Model 2: $CHit = \alpha 0 + \alpha 1(HD)it + \alpha 2(INVOP)it + \alpha 3(HDINVOP) + \phi(K)it + \varepsilon it$

Therefore:

CH Cash Holdings Level

HD Hedging activity of firm

INVOP Investment opportunities of firm

HDINVOP Relationship between hedging as well as investment opportunities

(K)IT Control variables performance kit set including (SIZE, TAX, EDF, ROA, and Dividend)

εit Error term

$\alpha 0,0$ Intercept

$\alpha K,$ Coefficients

Results and Discussion

Descriptive Statistics

The below mentioned results is highlighted descriptive statistics results. Total numbers of observations are 216. The mean value, value deviate from mean, minimum as well as maximum figures of each variable is presenting. The detail of descriptive results is as follow:

Table 2
Descriptive statistics

Variables	N	Obs.	Mean	Standard Deviation	Minimum	Maximum
CH	18	216	8.91	2.29	1.03	1.87
HD	18	216	.3009259	.459726	0	1
INVOP	18	216	1.987306	18.88132	-.07268	228.2703
HDINVOP	18	216	1.115185	15.52847	0	228.27
EDF	18	216	.1749156	.3271917	0	1
TAX	18	216	3.85	4.72	-8.20	2.52
SIZE	18	216	26.34392	1.195647	23.22503	28.74
ROA	18	216	.0794525	.7076004	-.200275	7.724425
DD	18	216	.6944444	.4617124	0	1

Table 3
Correlation Results

VARIABL	CH	HD	INVOP	HDINVO	EDF	SIZE	ROA	DD	TAX
CH	1.0000								
HD	0.0435	1.0000							
INVOP	0.0004	0.0628	1.0000						
HDINVOI	0.0066	0.1188	0.8188	1.0000					
EDF	-0.1372	-0.0453	-0.0528	-0.0382	1.0000				
SIZE	0.1265	0.3543	0.0403	0.1076	-0.1900	1.0000			
ROA	-0.0461	-0.0760	0.3771	-0.0087	0.0160	-0.1041	1.0000		
DD	0.0388	0.3133	-0.0382	0.0468	0.1450	0.4079	-0.0455	1.0000	
TAX	0.0190	0.3436	0.0188	0.1117	0.1342	0.7754	-0.0506	0.5239	1.0000

Correlation analysis is described relationship among variables such as dependent as well as independent that are using in study. In addition to results of correlation are fall the value between -1 to +1. Furthermore, above Table 3 described that the correlations results are significant and accepted.

Test for Multicollinearity for Model 1

Model 1: $CHit = \alpha 0 + \alpha 1\ (HD) + \alpha 2\ (INVOP) + (K) + \varepsilon it$

Firstly check the normality of data than to check the impact of independent variables such as hedging, investment opportunities, expected default frequency, tax, size, return on assets and dividend on dependent variable such as cash holding.

Table 4
Test for Multicollinearity

Variance Inflation Factor Test		
Variables	**VIF Value**	**1/VIF Value**
HD	1.21	0.827696
INVOP	5.73	0.174612
EDF	1.33	0.753036
TAX	3.54	0.282113
SIZE	3.34	0.299064

ROA	1.87	0.533525
DD	1.45	0.690215
Mean VIF	2.92	

The Table 4 is presented the results of VIF technique. This technique is used to make sure the multicollinearity among independent variables. The significant value of VIF is 10. When value is more than 10 that indicates, multicollinearity has occurred among variables. Above said results endorsed that data has no problem of multicollinearity.

Test for Heteroskedasticity for Model 1:

In further step heteroskedasticity examination is conducted to make sure variance among the independent variables. Basically heteroskedasticity test is show the fluctuation among the variable and as per normality of data the fluctuation among independent variable is inconsistent. When fluctuation among variables are inconsistent or vary than heteroskedasticity problem will be occurred.

Table 5
Test for Heteroskedasticity

Null Hypothesis: Constant variance			
Test Type	**Statistics**	**Notation**	**p-value**
Breusch-Pagan / Cook-Weisberg	6.49	chi-sq(1)	0.0109

The Table 5 is described the heteroskedasticity outcomes through Breusch-Pagan / Cook-Weisberg Test. The above table shows that p-value is less than 0.05 values. It denotes that data has problem of heteroskedasticity.

Durbin-Wu-Hausman Test for Model 1:

After the existence of heteroskedasticity in date to further check the existence of endogeneity during checking normality of data. Basically the endogeneity occur when explanatory variable correlated with error terms.

Table 6
Endogeneity Test

Null Hypothesis: Regressor is Exogenous			
Test Type	**Statistics**	**Notation**	**p-value**
Wu-Hausman F test:	55.3090	F(1,162)	0.0000
Durbin-Wu-Hausman chi-sq test:	43.2680	chi-sq(1)	0.0000

Table 6 is described the results of endogeneity in data. The Durbin-Wu-Hausman test is used to check the endogeneity in data. The above table shows that p-value is less than 0.05 values. The result denotes that data has problem of endogeneity.

GMM Technique for Model 1:

When data has problem of endogeneity and heteroskedasticity, then ordinary least square regression technique is not suitable. Keeping in view above, one step system generalized method of movements (GMM) is suitable for regression results.

Table 7
One-Step System GMM Technique

CH_{it}	Coefficient	Standard Error	Z	p-value
HD	.7122238	.3255456	2.19	0.029
INVOP	.0084674	.0074014	1.14	0.253
EDF	-5.451303	.5336582	-10.21	0.000
TAX	.2012246	.1760374	1.14	0.253
SIZE	2.281357	.240678	9.48	0.000
ROA	.4071626	.248203	1.64	0.101
DD	-.2596002	.3874644	-0.67	0.503
CONS	-43.82811	4.252247	-10.31	0.000

The Table 7 is highlighted the coefficient results of independent variables. The above said results are also highlighted the impact of independent variables on dependent variable such as cash holding. When firms hold more cash and no hedging then situation is highlighted cash holding of firms. As per theory when firm hold more cash than automatically hedging (HD), expected default frequency (EDF), and dividend (DD) must be decrease and other side investment opportunities (INVOP), tax of the firms (TAX), size of firms (SIZE) as well as (ROA) return on assets must be increased. The above scenario describes firm's financial risk automatically reduced. This technique is used as risk management approach for future. It means that increase in holding of cash is worked as tool for risk management for a company. Liquidity position of firms also has stronger due to holding of cash and company easily meet short terms obligations during the year. Above Table 5.5 indicates that INVOP, TAX, SIZE and ROA coefficient values are 0.0084674, 0.2012246, 2.281357 and 0.4071626 respectively as well as positively correlated with cash holding. It means that percentage change is increase in cash holding then automatically percentage change is increase in independent variable such as (INVOP, TAX, SIZE and ROA). The results are also significant as per theory as well as also comparable with earlier studies. On other side the EDF and DD coefficient values are -5.451303 and -0.2596002 respectively as well as negatively correlated with cash holding. It means that percentage change is increase in cash holding then automatically percentage change is decrease in independent variable such as (EDF and DD). The results are also significant as per theory as well as also comparable with earlier studies. Only hedging (HD) results are insignificant. The overall results of above said model is significant empirically as well as theoretically and comparable with earlier studies.

Table 8
Arellano-Bond test for AR (1) and (2)

Test	Z	Pr> Z
Arellano-Bond test for AR(1) in first differences:	-5.69	.001
Arellano-Bond test for AR(2) in first differences:	-2.22	.026

Table 9
Over Identification Restrictions Test

Sargan test of over identification restrictions:	chi-sq =562.54	p-value = .000
Hansen test of over identification restrictions:	chi-sq =11.99	p-value = .007

Table 8 and Table 9 is highlighted further robustness test regarding results validity. The above said results are indicated that arellano bond test and over identification restriction test results are significant and overall upshots robust.

Test for Multicollinearity for Model 2:

Model 2: $CHit = \alpha 0 + \alpha 1(HD)it + \alpha 2(INVOP)it + \alpha 3(HDINVOP) + \phi(K)it + \varepsilon it$

Firstly check the normality of data than to check the impact of independent variables such as hedging, investment opportunities, expected default frequency, tax, size, return on assets and dividend on dependent variable such as cash holding.

Table 10
Test for Multicollinearity

Variance Inflation Factor Test		
Variables	**VIF Value**	**1/VIF Value**
HD	1.21	0.827696
INVOP	5.73	0.174612
HDINVOP	4.92	0.203108
EDF	1.33	0.753036
TAX	3.54	0.282113
SIZE	3.34	0.299064
ROA	1.87	0.533525
DD	1.45	0.690215
Mean VIF	2.92	

The Table 10 is presented the results of VIF technique. This technique is used to make sure the multicollinearity among independent variables. The significant value of VIF is 10. When value is more than 10 that indicates, multicollinearity has occurred among variables. Above said results endorsed that data has no issue regarding multicollinearity.

Test for Heteroskedasticity for Model 2:

In further step during the normality of data the heteroskedasticity test is conducted to check the variance among the independent variables. Basically heteroskedasticity test is show the fluctuation among the variable and as per normality of data the fluctuation among independent variable is inconsistent. When fluctuation among variables are inconsistent or vary than heteroskedasticity problem will be occurred.

Table 11
Test for Heteroskedasticity

Null Hypothesis: Constant variance			
Test Type	**Statistics**	**Notation**	**p-value**
Breusch-Pagan / Cook-Weisberg	6.49	chi-sq(1)	0.0109

Above Table 11 is described the heteroskedasticity outcomes through Breusch-Pagan / Cook-Weisberg Test. The above table shows that p-value is less than 0.05 values. It denotes that data has problem of heteroskedasticity.

Durbin-Wu-Hausman Test for Model 2:

After the existence of heteroskedasticity in date to further check the existence of endogeneity during checking normality of data. Basically the endogeneity occur when explanatory variable correlated with error terms.

Table 12
Endogeneity Test

Null Hypothesis: Regressor is Exogenous			
Test Type	**Statistics**	**Notation**	**p-value**
Wu-Hausman F test:	55.3090	F(1,162)	0.0000
Durbin-Wu-Hausman chi-sq test:	43.2680	chi-sq(1)	0.0000

Table 12 is described the results of endogeneity in data. The Durbin-Wu-Hausman test is used to check the endogeneity in data. The above table shows that p-value is less than 0.05 value. The result denotes that data has problem of endogeneity.

GMM Technique for Model 2

When data has problem of endogeneity and heteroskedasticity, then ordinary least square regression technique is not suitable. The one step system generalized method of movements (GMM) is suitable for regression results.

Table 13
One-Step System GMM Technique

CH_{it}	**Coefficient**	**Standard Error**	**Z**	**p-value**
HD	.6574636	.3369281	1.95	0.051
INVOP	.045181	.0222311	2.03	0.042
HDINVOP	-.0408896	.0236865	-1.73	0.084
EDF	-5.542499	.5560015	-9.97	0.000
TAX	.3238051	.184413	1.76	0.079
SIZE	2.237428	.2494826	8.97	0.000
ROA	.2582739	.4271528	-0.60	0.545
DD	-.4447068	.3938033	-1.13	0.259
CONS	-45.08517	4.354149	-10.35	0.000

The Table 13 is highlighted the coefficient results of independent variables. The above said results are also highlighted the impact of independent variables on dependent variable such as cash holding. When firms hold more cash and no hedging then situation is highlighted cash holding of firms. As per theory when firm hold more cash than automatically hedging (HD), hedging investment opportunities (HDINVOP), expected default frequency (EDF), and dividend (DD) must be decrease and other side investment opportunities (INVOP), tax of the firms (TAX), size of firms (SIZE) as well as (ROA) must be increased. The above said scenario describes firm's financial risk automatically reduced. This technique is used as risk management approach for future. It means that

increase in holding of cash is worked as tool for management of risk for a company. Liquidity position of firms also has stronger due to holding of cash and company easily meet short terms obligations during the year. Above Table 5.11 indicates that INVOP, TAX, SIZE and ROA coefficient values are 0.045181, 0.3238051, 2.237428 and 0.2582739 respectively as well as positively correlated with cash holding. It means that percentage change is increase in cash holding then automatically percentage change is increase in independent variable such as (INVOP, TAX, SIZE and ROA) and vice versa. The results are also significant as per theory as well as also comparable with earlier studies. On other side the HDINVOP, EDF and DD coefficient values are -0.0408896, -5.542499 and -0.4447068 respectively as well as negatively correlated with cash holding. It means that percentage change is increase in cash holding then automatically percentage change is decrease in independent variable such as (HDINVOP, EDF and DD) and vice versa. The results are also significant as per theory as well as also comparable with earlier studies. Only hedging (HD) results are insignificant. The overall results of above said model is significant empirically as well as theoretically and comparable with earlier studies.

Table 14
Arellano-Bond test for AR (1) and (2)

Test	Z	Pr> Z
Arellano-Bond test for AR(1) in first differences:	-0.43	.666
Arellano-Bond test for AR(2) in first differences:	-2.22	.026

Table 15
Over Identification Restrictions Test

Sargan test of over identification restrictions:	chi-sq =251.62	p-value = .000
Hansen test of over identification restrictions:	chi-sq =4.68	p-value = .197

Table 14 and Table 15 is highlighted further robustness test regarding results validity. The above said results are indicated that arellano bond test and over identification restriction test results are significant and overall upshots robust.

Conclusion

The results concluded that INVOP, TAX, SIZE and ROA coefficient values are positively correlated with cash holding. It means that percentage change is increase in cash holding then automatically percentage change is increase in independent variable such as (INVOP, TAX, SIZE and ROA) and vice versa. The results are also significant as per theory as well as also comparable with earlier studies. On other side the HDINVOP, EDF and DD coefficient values negatively correlating with holding of cash. It means percentage change in increase in cash holding then automatically percentage change is decrease in independent variable such as (HDINVOP, EDF and DD) and vice versa. The results are also significant as per theory as well as also comparable with earlier studies. Only hedging (HD) results are insignificant. This investigation has two primary purposes. Right off the bat examines in the case of supporting and money property can be viewed as substitutive hazard administration apparatuses in the way that hedgers can hold bring down money saves. Besides inspect if the connection amongst supporting and money possessions is reinforced under conceivable underinvestment issues. Our discoveries demonstrate that monetary part of Pakistan with high venture openings hold

fundamentally bring down money saves contrasted with non-hedgers. Outcomes demonstrate those firms hold substantially fewer money, as well as they bring down the money saves. This Essential for the organizations through significant development openings as well as high speculation charges to guarantee protected as well as secure access to capital. Organizations whose functions depend on R&D as well as high change consumptions capable of utilize fluid assets toward put resources into esteem upgrading ventures when they support, and don't need to accumulate money for hazard diminishing purposes. We demonstrate that supporting as a hazard administration apparatus has developed in significance throughout the years. Our outcomes show that organizations fence more than prior, however we likewise find that organizations once in a while change their supporting action. It thusly ends up noticeably hard to inspect the impact usage of a supporting project would have inside an organization.

The danger of underinvestment issues is approaching for speculation escalated organizations. We find that supporting firms can bring down their money holds as speculation open doors increment, and our outcomes propose that organizations for this situation diminish their money levels. This implies the general outcomes bolster the hypothesis on hazard administration. It likewise underpins supporting and money saves as option hazard administration apparatuses. As our outcomes show, deciding an ideal money level is an unpredictable choice that is impacted by various components. We presume that organizations with considerable venture openings have motivation to support so money stores be capable of utilized on behalf of speculations. It enables the firms utilize liquidity resting on esteem improving activities. Non-hedgers should rather hold money saves for hazard lessening purposes. Supporting and money property can consequently be viewed as option hazard administration apparatuses. The objective for this investigation has likewise been the comprehension of why organizations hold money and to fill the learning hole between the relationship of money property and stock hazard. By finding a connection between money property and hazard the creators has figured out how to add to additionally comprehend the conduct of stocks on the Pakistan Stock Exchange. This examination has additionally added to the comprehension of the distinctive explanations behind firms to hold money and how the level of money holding are seen out of a hazard viewpoint on the monetary market by financial specialists. From a corporate point of view this is valuable to remember in the event that they need to diminish their saw chance they might need to change their level of money property.

The scholarly commitment of this investigation has been to verify that the level of money holding is a critical variable while assessing hazard on stocks and has expanded the comprehension of hazard for stocks on the Pakistan Stock Exchange. For financial specialists, this examination has demonstrated that they ought to consider both the aggregate hazard, unpredictability and the deliberate hazard, beta and not concentrate on just a single of them in confinement.

Recommendation

Our concentration is coordinated towards the connection amongst supporting and trade administration out the nearness of probable under-investment issues. A few other organizations perspectives, those influence relationship so as to analyze. Intended for instance, it is fascinating to experiment connection amongst trade as well as supporting out nearness of either administrative hazard avoidance, probability of money

related pain or duty convexity. The significance of hazard lessening exercises contrasts amongst ventures and segments and it can in this way be fascinating to inspect different firms. Further, this exploration region can be analyzed over a more drawn out period to moderate potential predispositions from particular occasions. Counting a more extended day and age may catch variety in the supporting variable, along these lines making it conceivable to look at the impact on money levels when supporting methodologies change. Naturally, the connection amongst supporting and money property ought to be most grounded when a firm changes their hazard administration projects and executes supporting in their procedure.

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