

The Effect of Corporate Cash Holdings on Stock Returns

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Abstract

In this research work the effect of corporate cash holdings on stock return is analyzed in which panel data is used from Pakistani listed firms which are listed in KSE for the period 2007-2013, the firms are selected randomly having sample size of 120 which is then divided into sixty small and large firms on the basis of their total assets respectively, the nature of our data is panel for which we have used panel data regression, panel data regression involve three models which are pooled ols, fixed effect model and random effect model, in order to find out the most appropriate model we have used three tests including chow test, Breusch-pagan test and Hausman test, based upon the p-values of the tests it is suggested to use the fixed effect model. White test is used to find out the presence of heteroscedasticity, VIF is used to find out the presence of multicollinearity in the data. As small and large firms are parts of this research. In the case of large size firms there is negative relationship between the return on stock and holding liquid assets and which usually enforce them to prefer internal financing rather than external financing because of various costs associated with external financing. In case of small size firms positive association is shown which is based on the fact that small size firms usually have poor credit ratings and have no easy access to the capital markets therefore they held more cash which has a positive effect on their stock return. And the overall effect again shows positive relationship between cash holdings and stock return, so this is a situation in which the firms usually face an equilibrium position between the payment of dividends and also to keep cash in the form of retain earnings.

Keywords: Corporate; Cash holdings; Stock return

Introduction

Background of the study

Cash and assets which are equivalents are positioned as probably the vital part of current resources and are the vertebrae of organization financial Administration. The Chiefs usually carry a considerable parcel of the advantages as money and easy investment securities for reinvestment in long life resources, dissemination to financial specialists and to keep cash internally [1]. The organization money property examples are generally clarified under main three hypotheses, specifically, model of trade-off, theory of pecking-order and theory of free cash flow.

The profits of cash possessions emerge from a mixed bag of intentions as recognized. The thought processes having liquid resources e.g., "exchange, prudent, or theoretical". The motive of transaction proposes that expenses may be connected with the change of different resources with to cash or stores from outside. Contrasted with outside financing, much the same as the theory predicts, liquid resources produced from inner sources may be a limited expensive wellspring of springing funds. Under the motive of precaution, the firm always tries to make fluid resources to refrain any unforeseen setbacks in real cash streams; generally, the organization will confront the expenses of untimely liquidating on its monetary commitments. Furthermore the motive of speculative recommends that an org ought to keep a certain level of fluid resources to profit them of future beneficial speculation assistance: generally, the org will confront the expenses of renouncing these ventures.

The expenses of fluid resources emerge due to mixed bag of springs. The principal is way that fluid springs get acquire no positive bounce, for instance, cash, or a negligible bounce back, for instance, attractive securities. Besides, the comeback from such resources is made more ugly by two fold tariff. Thirdly, liquid resources are either simple to be utilized as a part of a problematic way or abused by method for wasting

them on nothing by administrators: therefore, fluid resources worsen the organization clash in the middle of shareholders and managers.

In the locomotion of firm cash related administration, cash and cash related things are seeing the vital piece of current resources. The organizations have an impressive parcel of advantages as cash and cash proportionate and majority of fluid components for interest in settled resources, money profit paid to the chiefs or fit as a fiddle of held income [1]. An organization holding of fluids can be clarified with the assistance of specified three speculations specifically model of balance, retain request and theory of free cash-flow. According to theory of balance, the organizations may make their level of in hand cash for assistance of negligible expenses and minor advantages of cash equal. The essential advantages associated with the holding of trade is the decline in for cold hard currency the monetary trouble, guarantee the ideal speculation arrangement, even in the budgetary imperative firms and it likewise diminish the expenses of raising trusts from outside stores or to exchange the current resources [2]. Indeed as the negligible expense of holding of in hand is identified with the missing expense of equity with to less profit for liquid resources.

Hypotheses that make discussion on the balance on the expenses and profits of money property can do it conceivable to direct the subject of whether a org holds an excessive amount of cash from the perspective of shareholder riches expansion. By and large, nonetheless,

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directors and shareholders have distinctive perspectives in regards to the expenses and banquet of fluid resource possessions. Along these lines it may clarified from the org hypothesis that how not org hold in hand that much measure of money which can amplify the chief riches, which serves to perceive the organizations that keeps an excess of fluids. Exorbitant fluids property lessens hazard to builds is the reason troughs lean towards in hand cash offering significance to the prudent intention in hand cash. Thusly in org where office expenses of administrative attentiveness is much significance so you ought to expect that these organizations will carry deep fluid resources than necessity making augmentation of chief riches [3].

The larger part of the learning about cash possessions has basically been surmised from information of created economies that have various institutional similitudes while little has been completed as far as creating business sector setting. The track basis of in hand property for a specimen of US organizations. They revealed that organizations which are confronting trig expenses of outer raising have unstable income, organizations having moderately bottom profits for resources in hand fundamentally bigger fluid resources. For comparable firms, Opler et al. [3] give prove that moderately high degrees of in hand to aggregate not in hand resources are kept by the organizations having solid development chances and more hazardous in hand streams to little organizations. What's more the organizations that are huge having more noteworthy entry to the 2ndry markets and worthiness are generally peaked, tend to get bottom proportions of in hand to aggregate not in hand resources. Cash property of firms from Japanese, Germans, and US.

Notwithstanding discoveries like that of Opler et al. [3] he report that restraining infrastructure force of account keepers have the huge impact on in hand offset. The observational basics of organizations in hand possessions of a specimen of UK organization scrutinized by Ozkan in [4]. Suggested the proprietorship skeleton of organization has key influence in deciding cash property of UK organizations. Also they additionally uncover that in deciding cash property, firms' development open doors, cash streams, fluid resources, influence and bank obligation has much significance. At that point Drobetz et al. [5] examined for the key of trade for cold hard currency Switzerland showed contention, that administration exercise are little diverse here than in UK/US and inferences bolster organization clarification.

Problem statement

The mean cash held by the European and the U.S firms is 14.8% and 17% respectively Opler et al. [3], while the mean cash held by the Pakistani firms is 13.5% if we have a glance on the statistics these figures are very close to each other, a bulk of the work has done on cash holding in these countries while a very limited study has been done in the context of Pakistan regarding the holding of cash, so it is a vital question mark from research point of view that needs to be work with justification, this is the main motivating factor for the given research, the concept is further narrowed and specified to the effect of corporate cash holdings on stock return, that Pakistani firms usually keeps a handsome amount of cash in hand, how it effects the stock return of the firms is shown.

Objectives of the study

The study has below main objective:

- To investigate the effects of corporate cash holdings on stock return.

- To elaborate the effect of cash holdings on stock return in small and large size firms.

Hypothesis of the study

H_0 : There is no significant effect of corporate cash holdings on stock return

H_1 : There is a significant effect of corporate cash holdings on stock return

H_0 : There is no significant effect of corporate cash holding on the stock returns of small and large size firms

H_1 : There is a significant effect of corporate cash holding on the stock returns of small and large size firms

Significance of the study

The level of cash holding has been considered as a critical monetary choice in the budgetary administration. The firm dependably tries to keep the ideal level of cash and cash proportionate with the goal that it might be useful for the execution and improvement of the firm. The study will highlight the significance of cash possessions for the firm and depict the ideal level of cash property that can essentially influence the association's stock return. The study will likewise look at the relationship among the corporate cash property and the stock return of that specific firm. The study will likewise talk about the huge level of obligation to value that can all the more altogether influence the firm stock return. The study will talk about for all intents and purposes the utilization of obligation to value level and its association with stock return in the non-budgetary firms in the Pakistani Market.

Literature Review

Three basic obstacles, 1) the in hand of fluid shares by the managers. 2) safety oriented, exchanges and theoretical intentions. The expense of exchanges emerge in light of the fact that it includes the raising of fund, in the same way as flotation expenses. This will inspires the analysts to offer regard for stock sort hypotheses of money property [6]. According to the second motive which is the precautionary, as indicated by Keynes, it is connected with the necessity of sparing money to satisfy the future expected occasions, while as per the speculative reason, it is almost identified with the reason of precaution, details that the organizations ought to keep money holds as they may confront the issues in bringing finances up in coming time, and can give up the speculation chance because of absence of cash in hand.

The reasoning following the placement which is limited if the insufficient requirement of money and ill-advised secondary market and talked about in most extreme examination in the field of org financing [7]. Presently mirror a frame of greatest money property for the organization those are confronting extravagant outside subsidizing. According to their writing, the exchange off or the firm a few times brings down the reappearance of holding of fluid resources, and the motivations of unwinding in the budgetary requirement later on. They use the model to finish up the most extreme level of money holding, in clash that the firm who have high outside expense of stores are more gainful speculation opportunities and greatest variances in real money to hold more trade in for cold hard currency future.

The vicinity of flawed markets recommends that there is an ideal level of liquid resources. The choice to put resources into fleeting resources is affected by numerous elements in the meantime. A discerning administrator acting in light of a legitimate concern for chiefs will assess the profits and expenses of in handfluid resources.

The director will be expanding the chief's riches in all situations where the profits of putting resources into an extra dollar in fluid resources are more prominent of the expenses of that dollar. Writing on in hand usually held by companies proposes that the primary wellsprings of profits and expenses of interest in fluid resources emerge from; i) data invalid communication, ii), exchange expenses iii) organization expenses of obligation. The intermediaries of these viewpoints are specularly examined.

The org didn't constrain their selves to the money layer to backing the aggregation of capital, when it is revealed that inward supports are never sufficient for exercises and for the backing of productive NPV ventures. As in these circumstances, they are not hoping to hold money on the grounds that these money stores may not prompts the riches amplification of equity holders. Inverse to the anticipating of immaculate 2ndry market, stirs demonstrates that US and European orgs have a good looking step of trade in for spendable dough his accounting report [3]. Ferreira and Dittmar [8], yet here are a few obstacles fit as a fiddle of data asymmetries, cost of activity, organization issue and cost of budgetary misery, which constrain the organization to keep money stores and they set a greatest level of money store furthermore the balance the expense and profits and build the estimation of the firm [3].

The frame of this study is similar as having diverse blessed sides. The frames start with monetary limitation the root for the inspiration of greatest money standards and formats, mirroring a decreased predominant part for the exchanges intention and the assessment derivation of money stores. The ebb and flow investigate then again, get to be more obvious in diverse ways. 1) the model endogenizes the stores of money of the firm. The analyst recommends that money have less return when contrasted with the opportunity expense of fund for the firm. The endogeneity of expenses makes distinctive choices, especially, momentum exploration concentrate on the hugeness in real money holding choices for the requirement firms, not on the premise of profits, additionally of the cost of holding of cash.

Opler et al. [3] examine the elements and derivations of storage of cash and comparable to money by 1049 open division US org for the time of 1971 to 1994. The outcomes mirrors that the interaction b/w the holding of money and size is negative, NWC, amount of debt with respect to equity, installment of profit and tenets of government while there is a positive association with income to resources degree, the capital costs to resources, unpredictability of industry and Examination improvement to deals proportion. They get the outcomes that organizations having great opportunities of growth and flow of cash with danger and greatest level of money in hand, despite this large organizations usually have enhanced way to markets capital keep lower money level. Exact inference is given in Faulkender [9] for a UK orgs for US organizations.

Harford [10] experimentally tried the thought that high amount of cash in hand coordinates the administration to take the choices that diminishing the speculation. He anticipated a specimen of all picking up by organizations keeping much more cash are usually confronting descend in the value. Besides, they generally attempt to do expanded getting and target orgs are bottom alluring for buyers. The same frame may see in bidder organization in a unit spoke to by rugged diminishing in the workable execution.

Pinkowitz and Williamson [11] research the impacts of activities of banking on trade stores drift in for spendable dough the modern division for a Japanese organizations for time of 1974 to 1995, the organizations

of Germany for period of 1984 to 1994, and US organizations for from 1971 to 1994. This investigation of distinctive nations, for knowing the impacts of money in hand in for spendable dough for an organizations belongs to japan when contrasted with the US organizations, the relapse demonstrates that usually holding cash Japanese organizations are impact the restraining infrastructure of the banks. This is as indicated by the proof that most extreme money property mirrors the high leases getting out by the institutes which belong to japan amid that time of powered kingship when they appreciate distinctive power in the business sector firm loaning framework.

Dittmar et al. [8] checked the significance of orgs administration in discovering the organizations state of money stores. The analyst aggregate the information from all the majority than in 11010 organizations (30 Pakistan organizations) and also 45 nations in the year of (1998) and conceded the privileges of equity in hand record made by La Porta et al. [12]. The outcomes demonstrate that, nations who have low chiefs counteractive action have twice when contrasted with the organizations of those nations who have high equity getters insurance. At the point where there is a bent impart keeper insurance, the characters which focus the money state, in the same way as speculation open doors and lopsided data transform into low significance. Also, they come to recognize that the organizations will keep huge money when here is a less demanding reaching strive to the account in the business sector and it bolster the theory of Agency.

The characters that focus the money saves by utilizing the 410 example organizations as a part of twelve EMU nations from period of 1987-2000. It demonstrates the outcomes that speculation chances have +ve association with the holding of money and money streams of the organization. While, the fluidity of the benefits, size of the organization, influence and bank credit influenced contrarily by the money in hand. The organizations who stick up small trade in for cold hard currency nations with high speculator aversion and concentrated proprietorship.

Nguyen [13] analyzed the supposition that money qualities have prudent inspiration and serve up to ease the vacillation of operational pay, and utilized this as a danger intermediary. The outcomes demonstrates that money level has a positive association with firm hazard yet have negative association with industry hazard. According to the past inquires about, money stores were taken to be brings down with the measure of the organization and obligation proportion, and get to be peak with development, gainfulness and profit giving degree.

Guney et al. [14] examine the impact of obligation to value on money estimations of the organizations, which they may take be as non-monotonic. There is a negative association in the middle of influence and money possessions as far as possible obligation to value may be acts an alternate for capacity to overture obligations. As there expansion in debt with respect to equity, organizations get high money property to that monetary pain hazard and expense of impoverishment could be descended. Thus, whenever the impact is higher so there may be a positive association between money possessions and influence. The outcomes demonstrate a productive non straight association among influence and money property. Furthermore, the nation with particular peculiarities like level of bank anticipation, insurance to equity keepers and proprietorship may impact the quality of association among influence and money possessions.

Drobtz and Gruninger [5] analyzed the characters of money factors of Swiss non-monetary organizations (1995 to 2004). The outcomes mirrors that the average of the organizations roots around

twice as money and identical as the average of US or UK organizations. Moreover, they see a negative association b/w money possessions and resources unmistakable quality and non-direct relationship b/w money property and debt to the ratio of equity. There is a positive relationship between money stores and profit installment. However, the relationship between money property and development opportunities is sure yet immaterial.

Hofmann [15] explore the factors of organizations money state of organizations which are of New Zealand and non-financial. He stated the primary factors of organization money store are income unpredictability, development opportunities, profit payout degree, influence and vicinity of substitutes of money resources. There is a positive relationship among development opportunities and unpredictability of income to money property, high profit payout degrees and money resources substitute show low money possessions.

The above writing can be inferred that, all the organizations holding the money for two reason i.e., the keeping of money securities by the operators and safety oriented, speculative and exchanges intention. The expense of exchanges increments because of the expanding of stores, for instance the flotation cost. The preliminary thought processes of money property are that, the firm is sparing money for the future unforeseen occasions. As per the speculative intention, the firm ought to hold the money as to spare themselves from the future issues with respect to the expanding of stores and the organizations a few times may lose the speculation opportunities due the deficient money possessions. According to the writing the firm money property and development opportunities has positive relationship. There is a negative relationship in the middle of influence and association's money property.

Research Methodology

This section of the research is also referred as research design. We have tried to make it simpler and easier for the better understanding. In this section we have discussed the population of the study, the method of sampling, method of data collection, theoretical framework, the variables of the study, and statistical model of the study.

Universe of the study

The current study is conducted in the Karachi Stock Exchange which has almost 434 non-financial companies listed on it (According to the KSE page visited on 14 Nov 2014). The non-financial companies listed at the exchange were included in the population of the research and the study has selected the sample from these companies.

Sampling procedure

The Research study comprises of 120 companies listed on KSE, which are selected randomly. Out of these 120 companies sixty are large size and sixty are small size firms on the basis of their total assets. Almedia et al. [1] used the same method of sampling while elaborating the effect of corporate cash holdings on stock return in south Asian countries. The research excludes the companies which belong to the financial sector. The research also excludes those companies which have no data available in the period of the research which is from 2007 - 2013.

Data collection

Secondary data is used in this research work. Data of the variables of the sampled firm were taken from the organization's annual reports, websites, Pakistan analysis of balance sheet, and the central Bank of Pakistan Publications for the period of 2007-2013.

Theoretical framework

This part is concerned with the identification of the dependent and the independent variable of the analysis and it presents the theoretical model operating the relationship between these variables (Figure 1).

Variables of the study

The theoretical framework presents the dependent and independent variables of the research and their relationship.

Stock return (R)

The gain or loss of a security in a particular period. The return consists of the income and the capital gains relative on an investment. For the purpose of the study the research have calculated the annual stock returns for each of the company using the above formula, Where the Pn is the stock price at the end of the year and P0 is the price of the stocks at the beginning of the year.

$$R_t = \ln\left(\frac{P_t}{P_{t-1}}\right)$$

R_t = Return of the stock

P_t = Price of the stock

P_{t-1} = Previous price of the stock

Cash holdings

The cash holding is the cash amount and other securities that can be easily converted into cash. The dependent variable of the study is cash holdings of the company. The variable of cash holdings was calculated as percentage of the total assets of the company which is represented by the following equation.

$$CH = \frac{\text{Cash} + \text{cash equivalents}}{\text{Total assets} - \text{Cash} + \text{cash equivalents}}$$

Leverage

A firm can use different factors for holding high levels of cash. Among these factors, one is leverage. The leverage of the firm is the amount of debt with respect to the equity of the company. It is presented by the following equation:

$$LEV = \frac{\text{Total Debts}}{\text{Total Equity}}$$

Firm size

The size of the firm is measured as the natural log of the assets of the company.

$$\text{Size} = \ln(\text{Total assets})$$

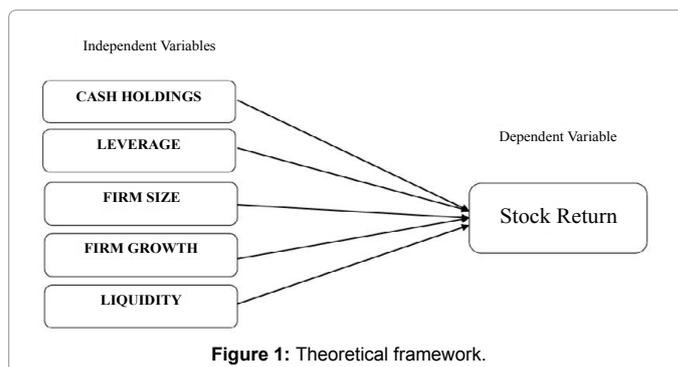


Figure 1: Theoretical framework.

Firm growth

The Firm growth was also selected as independent variable of the study. The Firms growth will be measured by the following equation:

$$\text{Firm growth} = \left(\frac{\text{market value of equity}}{\text{book value of total assets}} \right)$$

Liquidity

Liquidity is the independent variable of the study. The liquidity has measured by the following equation:

$$\text{Liquidity} = \frac{\text{Current Liabilities}}{\text{Current assets}}$$

Analytical model

The current analysis use the multiple regression analysis models for analyzing the relationship between the leverage, Cash holdings, size, Growth, liquidity and the stock return of the company. The model uses the leverage, cash holdings, growth, size, liquidity of the firm as the independent variables of the study and regressed it against the stock return of the companies to find out the relationship between the variables.

Model 1 (Large size firms)

$$\text{Stock Return}_{it} = \beta_0 + \beta_1 (\text{Cash}_{it}) + \beta_2 (\text{Leverage}_{it}) + \beta_3 (\text{Size}_{it}) + \beta_4 (\text{Growth}_{it}) + \beta_5 (\text{Liquidity}_{it}) + \varepsilon_t$$

Model 2 (Small size firms)

$$\text{Stock Return}_{it} = \beta_0 + \beta_1 (\text{Cash}_{it}) + \beta_2 (\text{Leverage}_{it}) + \beta_3 (\text{Size}_{it}) + \beta_4 (\text{Growth}_{it}) + \beta_5 (\text{Liquidity}_{it}) + \varepsilon_t$$

Panel data technique

The nature of our data is both time series and cross sectional i.e., panel data. Panel data regression is adopted for the study which has maximum time period and more companies. The panel data regression comprises of two different tests i.e., fixed effect and random effect model. The results of fixed or random effect is recommended, for this we will run a diagnostic test named hausman test. If the value of hausman test is less than 0.05 then fixed effect model is suggested or if the value is less than 0.05 then random effect model is recommended.

Fixed effect model

Use fixed-effects (FE) whenever you are only interested in analyzing the impact of variables that vary over time. FE explores the association between predictor and outcome variables within an entity (country, person, company, etc.). When using FE we assume that something within the individual may impact or bias the predictor or outcome variables and we need to control for this. This is the rationale behind the assumption of the correlation between entity's error term and predictor variables. FE removes the effect of those time-invariant characteristics from the predictor variables so we can assess the predictors' net effect.

Random effect model

The ground behind random effects model is that, unlike the fixed effects model, the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model. It will be decided on the basis of hausman test.

Hausman test

The Hausman test is basically to decide that either we should use the fixed effect or random effect model. The standard value for it is 0.05, on

the basis of which we will decide that whether to use fixed effect model or random effect model. If the value of Hausman test is lesser than 0.05 then fixed effect model will be used and if the p-value is greater than the 0.05 then it will prescribe us to interpret our data through the random effect model, it is basically used after the chow and Breusch-pagan test in panel data studies.

Multicollinearity

The problem of multicollinearity is usually present in the panel data. As our data are also panel in nature, the test is used to check the problem of multicollinearity. A test named as Inflation Factor (VIF) will be used to check the problem of multicollinearity in the data. If the value of variables are less than 10 then the variables are good for the study or if the value is greater than 10 then the variables have the problem of multicollinearity, so the variable should be replaced.

Heteroscedasticity

In statistics, a collection of random variables is heteroscedastic if there are sub-populations that have different variabilities from others. Here "variability" could be quantified by the variance or any other measure of statistical dispersion. Thus heteroscedasticity is the absence of homoscedasticity. The spellings homoscedasticity and heteroscedasticity are also frequently used. White test will be used to check the problem of heteroscedasticity. If the p-value of white test is lower than 0.05 then it have the problem of heteroscedasticity and if the value is greater than 0.05 then the data has no heteroscedasticity problem. In case of the presence of heteroscedasticity, robust will be run on the regressed data.

Results and Discussions

The data analysis is divided into three broad categories i.e., Analysis of large firms, small firms and combined analysis.

Large Size companies

Table 1 indicates diagnostic tests for panel data model.

Multicollinearity

Table 2 shows the results of multicollinearity test. Variance Inflation factor was used to check the problem of multicollinearity. The standard value of the test is 10. If the value of VIF value is more than 10 then there is a problem of multicollinearity and if the value is less than 10 then there is no problem of multicollinearity. The Table 2 shows that there is no problem of multicollinearity in all variables.

Fixed effect model

Dependent Variable = Stock Returns

The Table 3 shows the results of fixed effect model used for the data analysis in the current research study. The fixed effect model is used after the recommendation of hausman test. The table shows the effects of independent variables (Cash holding, firm size, leverage, liquidity and growth) on the dependent variable (Stock return). The R-square of the model is 0.601. It shows that all the independent

Test	Purpose	Test Statistics	P-value	Result
Hausman test	Fixed effect model vs Random effect model	chi-square(6) > 33.525	0.000	Fixed effect model
White's test	Presence of Heteroskedasticity	Chi-square(27) > 48.234	0.007	Presence of Heteroskedasticity

Table 1: Diagnostic tests for panel data model.

S.No	Variable	VIF
1	Cash holding	1.006
2	Firm size	1.017
3	Leverage	1.066
4	Liquidity	1.021
5	Growth	1.023

Table 2: Results for multicollinearity.

variables explains 60 percent variance in the dependent variable. The F-ratio of the model is 4.377. F-ratio was used to check that the model is statistically significant or not. The present value of the model shows that the current model is statistically significant. If the F-ratio of the model is higher than 4 then the model will be significant and vice versa. The p-value of the model is 0.000, it shows that the model is significant under 5 percent level of significance.

The coefficient of cash holding is -0.001. The coefficient shows per unit change in the dependent variable due to independent variable. If the cash holding is changed by 1 unit then the stock return will be changed by -0.001. The sign of the coefficient is negative, it means that if the cash holding has been increased then the stock return will be decreased. The t-ratio of return is -0.897, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of cash holding is 0.369, which is insignificant because it is higher than 0.05. So in this case the firm may prefer internal financing as compared to the external financing. These results can support the pecking order theory.

The coefficient of firm size is -0.003. The coefficient shows per unit change in the dependent variable due to independent variable. If the size is changed by 1 unit then the stock return will be changed by -0.003. The sign of the coefficient is negative, it means that if the firm size has been increased then the stock return will be decreased. The t-ratio of firm size is -2.185, which is significant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of firm size is 0.029, which is significant because it is lower than 0.05. So it is concluded that firm size has negative and significant effects on stock return of the firm.

The coefficient of leverage is -0.002. The coefficient shows per unit change in the dependent variable due to independent variable. If the leverage is changed by 1 unit then the stock return will be changed by -0.002. The sign of the coefficient is negative, it means that if the leverage has been increased then the stock return will be decreased. The t-ratio of leverage is -1.372, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of leverage is 0.170, which is insignificant because it is higher than 0.05. So it is concluded that leverage has negative and insignificant effects on stock return of the firm.

The coefficient of liquidity is 0.002. The coefficient shows per unit change in the dependent variable due to independent variable. If the liquidity is changed by 1 unit then the stock return will be changed by 0.002. The sign of the coefficient is positive, it means that if the liquidity has been increased then the stock return will be increased. The t-ratio of liquidity is 3.944, which is significant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of liquidity is 0.000, which is significant under 5 percent and significant under 10 percent. So it is concluded that liquidity has positive and significant effects on stock return of the firm.

The coefficient of growth is 0.000. The coefficient shows per unit change in the dependent variable due to independent variable. If the

growth is changed by 1 unit then the stock return will be changed by 0.000. The sign of the coefficient is positive, it means that if the growth has been increased then the stock return will also be increased. The t-ratio of growth is 2.195, which is significant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of growth is 0.030, which is significant under 5 percent. So it is concluded that growth has positive and significant effects on stock return of the firm.

Small size companies

Table 4 indicates different diagnostic test for panel data model.

Multicollinearity

Table 5 shows the results of multicollinearity test. Variance Inflation factor was used to check the problem of multicollinearity. The standard value of the test is 10. If the value of VIF value is more than 10 then there is a problem of multicollinearity and if the value is less than 10 then there is no problem of multicollinearity. The above table shows that there is no problem of multicollinearity in all variables.

Fixed effect model

Table 6 shows the results of fixed effect model used for the data analysis in the current research study. The fixed effect model is used after the recommendation of Hausman test. The table shows the effects of independent variables (Cash holding, firm size, leverage, liquidity

	Coefficient	Robust Std. Error	t-ratio	p-value
Constant	0.022	0.002	8.417	0.000
Cash holding	-0.001	0.000	-0.897	0.369
Firm size	-0.003	0.000	-2.185	0.029
Leverage	-0.002	0.001	-1.372	0.170
LIQ	0.002	0.000	3.944	0.000
Growth	0.000	0.000	2.195	0.030

R²=0.601, Adjusted-R²=0.407, F-Ratio=4.377, P-Value=0.000

Table 3: Effect of corporate cash holdings on stock return.

Test	Purpose	Test Statistics	P-value	Result
Hausman test	Fixed effect model Vs Random effect model	chi-square(6) > 23.508	0.000	Fixed effect model
White's test	Presence of Heteroskedasticity	Chi-square(27) > 8.156	0.999	Absence of Heteroskedasticity

Table 4: Different diagnostic test for panel data model.

S.No	Variable	VIF
1	Cash holding	1.015
2	Firm size	1.008
3	Leverage	1.141
4	Liquidity	1.136
5	Growth	1.006

Table 5: Results for multicollinearity.

	Coefficient	Robust Std. Error	t-ratio	p-value
Constant	0.071	1.491	0.047	0.961
Cash holding	0.001	0.000	2.593	0.009
Firm size	0.025	0.098	0.258	0.795
Leverage	0.305	1.272	0.240	0.810
LIQ	-0.014	0.110	-0.129	0.896
Growth	-0.096	0.284	-0.3408	0.73349

R²=0.220, Adjusted-R²=0.074, F=4.050, P-Value(F)=0.010

Table 6: Fixed effect model for the effect of cash holdings on stock return.

and growth) on the dependent variable (Stock return). The R-square of the model is 0.220. It shows that all the independent variables explains 22 percent variance in the dependent variable. The F-ratio of the model is 4.050. F-ratio was used to check that the model is statistically significant or not. The present value of the model shows that the current model is statistically significant. If the F-ratio of the model is higher than 4 then the model will be significant and vice versa. The p-value of the model is 0.010, it shows that the model is significant under 5 percent level of significance.

The coefficient of cash holding is 0.001. The coefficient shows per unit change in the dependent variable due to independent variable. If the cash holding is changed by 1 unit then the stock return will be changed by 0.001. The sign of the coefficient is positive, it means that if the cash holding has been increased then the stock return will also be increased. The t-ratio of cash holding is 2.593, which is significant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of cash holding is 0.009, which is significant because it is lower than 0.05. So it is concluded that cash holding has positive and significant effects on stock return of the firm.

The coefficient of firm size is 0.025. The coefficient shows per unit change in the dependent variable due to independent variable. If the size is changed by 1 unit then the stock return will be changed by 0.025. The sign of the coefficient is positive, it means that if the firm size has been increased then the stock return will also be increased. The t-ratio of firm size is 0.258, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of firm size is 0.795, which is insignificant because it is higher than 0.05. So it is concluded that firm size has positive and insignificant effects on stock return of the firm.

The coefficient of leverage is 0.305. The coefficient shows per unit change in the dependent variable due to independent variable. If the leverage is changed by 1 unit then the stock return will be changed by 0.305. The sign of the coefficient is positive, it means that if the leverage has been increased then the stock return will also be increased. The t-ratio of leverage is 0.240, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of leverage is 0.810, which is insignificant because it is higher than 0.05. So it is concluded that leverage has positive and insignificant effects on stock return of the firm.

The coefficient of liquidity is -0.014. The coefficient shows per unit change in the dependent variable due to independent variable. If the liquidity is changed by 1 unit then the stock return will be changed by -0.014. The sign of the coefficient is negative, it means that the if the liquidity has been increased then the stock return will be decreased. The t-ratio of liquidity is -0.129, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of liquidity is 0.896, which is insignificant under 5 percent. So it is concluded that liquidity has negative and insignificant effects on stock return of the firm.

The coefficient of growth is -0.096. The coefficient shows per unit change in the dependent variable due to independent variable. If the growth is changed by 1 unit then the stock return will be changed by -0.096. The sign of the coefficient is negative, it means that the if the growth has been increased then the stock return will be decreased. The t-ratio of growth is -0.340, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of growth is 0.733, which is insignificant under 5 percent. So it is concluded that growth has negative and insignificant effects on stock return of the firm.

Combined results

Table 7 indicates diagnostic tests for panel data model.

Multicollinearity

Table 8 shows the results of multicollinearity test. Variance Inflation factor was used to check the problem of multicollinearity. The standard value of the test is 10. If the value of VIF value is more than 10 then there is a problem of multicollinearity and if the value is less than 10 then there is no problem of multicollinearity. The above table shows that there is no problem of multicollinearity in all variables.

Fixed effect model

Table 9 shows the results of fixed effect model used for the data analysis in the current research study. The fixed effect model is used after the recommendation of Hausman test. The table shows the effects of independent variables (Cash holding, firm size, leverage, liquidity and growth) on the dependent variable (Stock return). The R-square of the model is 0.216. It shows that all the independent variables explain 21.6 percent variance in the dependent variable. The F-ratio of the model is 4.543. F-ratio was used to check that the model is statistically significant or not. The present value of the model shows that the current model is statistically insignificant. If the F-ratio of the model is higher than 4 then the model will be significant and vice versa. The p-value of the model is 0.000410, it shows that the model is significant under 5 percent level of significance.

The coefficient of cash holding is 0.001. The coefficient shows per unit change in the dependent variable due to independent variable. If the cash holding is changed by 1 unit then the stock return will be changed by 0.001. The sign of the coefficient is positive, it means that the if the cash holding has been increased then the stock return will be increased. The t-ratio of return is 2.127, which is significant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of cash holding is 0.033, which is

Test	Purpose	Test Statistics	P-value	Result
Hausman test	Fixed effect model Vs Random effect model	chi-square(6) > 21.373	0.001	Fixed effect model
White's test	Presence of Heteroskedasticity	chi-square(6) > 21.373	0.999	Absence of Heteroskedasticity

Table 7: Diagnostic tests for panel data model.

S.No	Variable	VIF
1	Cash holding	1.011
2	Firm size	1.026
3	Leverage	1.052
4	Liquidity	1.013
5	Growth	1.010

Table 8: Presence of multicollinearity.

	Coefficient	Robust Std. Error	t-ratio	p-value
Constant	-0.034	0.762	-0.045	0.963
Cash holding	0.001	0.000	2.127	0.033
Firm size	0.013	0.046	0.289	0.772
Leverage	0.015	0.007	2.033	0.034
LIQ	-0.000	0.009	-0.017	0.985
Growth	-0.059	0.148	-0.401	0.688

R²=0.216, Adjusted-R²=0.076 F=4.543 P-Value(F)=0.000

Table 9: Fixed effect model for the effect of cash holdings on stock return.

significant because it is lower than 0.05. So it is concluded that cash holding has positive and significant effects on stock return of the firm.

The coefficient of firm size is 0.013. The coefficient shows per unit change in the dependent variable due to independent variable. If the size is changed by 1 unit then the stock return will be changed by 0.013. The sign of the coefficient is positive, it means that if the firm size has been increased then the stock return will be increased. The t-ratio of firm size is 0.289, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of firm size is 0.772, which is insignificant because it is higher than 0.05. So it is concluded that firm size has positive and insignificant effects on stock return of the firm.

The coefficient of leverage is 0.015. The coefficient shows per unit change in the dependent variable due to independent variable. If the leverage is changed by 1 unit then the stock return will be changed by 0.015. The sign of the coefficient is positive, it means that if the leverage has been increased then the cash holding will be increased. The t-ratio of leverage is 2.033, which is significant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of leverage is 0.034, which is significant because it is lower than 0.05. So it is concluded that leverage has positive and significant effects on stock return of the firm.

The coefficient of liquidity is -0.000. The coefficient shows per unit change in the dependent variable due to independent variable. If the liquidity is changed by 1 unit then the stock return will be changed by -0.000. The sign of the coefficient is negative, it means that if the liquidity has been increased then the stock return will be decreased. The t-ratio of liquidity is -0.018, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of liquidity is 0.985, which is significant under 5 percent and significant under 10 percent. So it is concluded that liquidity has negative and insignificant effects on stock return of the firm.

The coefficient of growth is -0.059. The coefficient shows per unit change in the dependent variable due to independent variable. If the growth is changed by 1 unit then the stock return will be changed by -0.059. The sign of the coefficient is negative, it means that if the growth has been increased then the stock return will also be increased. The t-ratio of growth is -0.401, which is insignificant. If the absolute value of t-ratio is more than 2 then it will be significant and insignificant if lower. The p-value of growth is 0.688, which is insignificant under 5 percent. So it is concluded that growth has negative and insignificant effects on stock return of the firm.

Summary, Conclusion and Recommendations

This chapter is composed of the summary, conclusion and recommendations which will provide a concise and easy approach towards understanding the research work and will also provide an insight towards the future, especially for the students and organizations to work more and get better results.

Summary

This research is basically conducted in the non-financial sector of Pakistan having to observe the level of cash holding in the small size, large size companies and also to find the overall effect of cash holding with the stock return in all the three cases, for which a sample of 120 companies are taken randomly from the 434 non-financial companies listed in the Karachi stock exchange (KSE). The 120 companies consist

of sixty small and sixty large companies on the basis of their total assets.

The control variables used in the study are the growth, firm size, liquidity and leverages which are also regressed against the stock return, their effects are also studied and gave different results with all of the three categories.

Panel data is used from the period (2007-2013), for which panel data regression is used and which is decided on the basis of various tests like the chow test, Breusch-pagan test and Hausman test.

The super natural behavior of such variables in Pakistan may involve in profile of information lopsidedness, cost of activity, assistance problem and fulsome of funds anguish, and other sensitive problems like adverse regime factors, narrowness of market, economic sanctions, energy crises which emphasize the variables to behave unexpectedly and make the investors more anxious and disturb to invest in the stocks which will affect the stock return in the same manner.

Conclusion

The title of the topic is the effect of corporate cash holdings on stock return, there are used fixed effect model for all the sections like small size companies, large size companies and overall effect.

The dependent variable of the study is stock return and independent variable is cash holding while the firm size, firms growth, leverage and liquidity are used as the control variables.

Large size companies: In case of the large size companies (60) after the recommendation of chow test, Breusch-pagan test and the Hausman test, the fixed effect model is used for the effect of corporate cash holdings on stock return, VIF is used to check the multicollinearity and white test is used to check heteroscedasticity.

Considering the overall values of the model the (co-efficient of determination) R^2 is 0.60 which shows that 60% of the variation in the dependent variable has been explained by the independent variables, the F-Ratio of the model is 4.377 and p-Value is 0.000268 which shows that the model is overall significant.

The study shows the negative and insignificant relationship of cash holdings and stock return. So in this case the firm may prefer internal financing as compared to the external financing. These results can support the pecking order theory. The study shows the negative and significant relationship between firm size and stock return.

The study shows the negative relationship of leverage and stock return which is the fact that when a firm is highly leveraged then the investors feel a little disturbed and anxious while investing in it. Further negative and significant relationship of liquidity with the stock return is shown in this study.

The current study has also found that growth has positive and significant effects on stock return.

Small Size companies: In case of the small size companies (60) after the recommendation of Hausman test, the fixed effect model is used for the effect of corporate cash holdings on stock return, VIF is used to check the multicollinearity and white test is used to check heteroscedasticity.

Considering the overall values of the model the (co-efficient of determination) R^2 is 0.220 which shows that 22% of the variation in the dependent variable has been explained by the independent variables,

the F-Ratio of the model is 4.050 and p-Value is 0.010745 which shows that the model is overall significant.

Keeping in mind the market conditions of Pakistan which are immature and not perfect our study shows the positive and insignificant relationship of firm size and stock return. There is a positive and insignificant relationship between leverage and stock returns in our study.

Combined results: In case of all companies having sample size of (120) after the recommendation of chow test, Breusch-pagan test and the Hausman test, the fixed effect model is used for the effect of corporate cash holdings on stock return, VIF is used to check the multicollinearity and white test is used to check heteroscedasticity.

Considering the overall values of the model the (co-efficient of determination) R^2 is 0.21 which shows that 21% of the variation in the dependent variable has been explained by the independent variables, the F-Ratio of the model is 4.543 and p-Value is 0.000410 which shows that the model is overall significant.

The current results shows positive correlation between cash holdings and equity returns emerges in a model in which firms face a balance between the choices of distributing dividends in the current period and accumulating cash to avoid external financing.

There are several studies on the relationship b/w leverage and stock returns. In a part of the literature, leverage is positively related to stock returns, especially for limited firms with limited investment chances. Similar to our study the negative relationship is shown in the previous literature of firm growth and the stock return in which the positive skewed return is always considered an attribute for the companies which are growth oriented and also for those companies which are financial distressed companies.

So it is concluded that a firm which may be small or large keep such level of cash that can give much incentives for them, And also they should keep in mind the fringe costs and fringe benefits of holding the money.

Recommendations

- Number of factors should be considered for doing research in future on cash holdings and stock return. Method for the selection of sample can be revisited as the sample is about 120 non-financial firms. Sample for study can be expanded but to check availability of data on Karachi stock exchange listed firms. It will give better results to the local management, and especially to those firms which compete globally and in local markets.
- Due to the negative relationship of cash holding with stock return, it is recommended that the firms should prefer internal financing as compared to the external financing to get more stock return.

Leverage has a negative relationship with stock return. The firm with the higher leverage ratio will be more exposed to the bankruptcy. The firm should lower the debt financing.

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