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RESEARCH PAPER

Factors affecting Cash Holding Choice Chosen by the Finance Manager: Evidence from the manufacturing Industry of Pakistan

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ABSTRACT

The purpose of this research is to identify the factors that influence cash-holding choices in Pakistan's food business so that appropriate recommendations may be made. The State Bank of Pakistan gathered data from 39 food companies from 2013 to 2020 for the research. We applied static panel data analysis techniques to the inference's output by utilizing correlation analysis, descriptive statistics, and a pooled ordinary least square regression model to investigate specific firms. Cash flow, leverage, and liquidity ratio adversely affected cash holdings; the research found. Profitability and cash holdings are strongly correlated. Finally, dividend policy and cash holding showed minimal correlation. This study has helped management make sensible cash-holding selections. Food companies should maintain their cash levels at optimum levels to enhance their profitability.

KEYWORDS Cash Holding, Decision Making, Dividend, Firm Size, Liquidity

Introduction

Introduction

Over the last two decades, nonfinancial companies have accumulated significant cash holdings around the globe due to expecting the crisis. In a crisis, external financing is challenging and becomes more costly to gain in the tense economic markets. As a result, the firms try to build efforts to raise cash holdings to elude external capital, such as bank loans, equity offerings, and bond offerings, in reaction to the strain.

Cash offers liquidity and is essential to the functioning of businesses. The most critical component of an organization's assets is it. Organizations are encouraged to maintain Cash on hand to satisfy commitments, ensure operations, and hold good investment possibilities (Tahir, Quddus, Kahnum, & Usman, 2020). In recent years, corporate finance studies have increasingly turned their attention to cash management strategies as a prominent study field. However, the business must manage its influential liquidity position to meet its capital investment and operations demands.

Keynes (1936) outlined three reasons businesses could need to save Cash. These three goals or reasons, namely the preventive goal, the transactional goal, and the speculative goal. In other words, the transaction objective drives businesses to keep Cash on hand to fulfill their daily operations and reduce costs associated with selling various other assets. In contrast, the precautionary objective drives businesses to keep Cash on hand to meet any future financing desires. In contrast, the speculative objective drives businesses to keep Cash on hand to generate some interest income from investing in short-term securities (Hirsch, 2021).

A company might hoard Cash for a variety of reasons, in theory. Transaction expenses are a frequent motivation (Zhou, Wang, Kamei, Hassan, & Ubayashi, 2022). One

example of transaction costs is taxes levied on profits. This claim has been suggested by (Stavins, 2022). The second is called cautious savings, and it encourages businesses to hold onto more Cash when external financing frictions make it challenging to take advantage of attractive investment possibilities (Ridley, 2022). The agency motivation described by Lei, Xu, and Jin (2022) specifies other currency holdings.

Recent research has shed light on the increase in total cash holdings, which has both a tax-based rationale (Ghufran, Ashraf, Rizwan, Ali, & Aldieri, 2022) and a preventive savings purpose since cash flow is more unpredictable. According to Faulkender, and Wang, (2006), variations in the cost of transporting Cash may be attributed to variations in corporate cash holdings. Similarly, to this, Humpe, and Macmillan, (2009), who contend that corporate cash holdings are adversely connected with inflation, concluded that fluctuations in the actual value of carrying Cash. Using data from the 1920s, Canil and Karpaviius (2022) found conflicting evidence for the reasons for precautionary saving and supported a tax-based explanation for the rise in cash holdings.

According to Cambrea, Calabrò, La Rocca, and Paolone,(2022), the agency costs of management discretion are crucial in understanding cash holdings. With a sample of more than 11,000 businesses across 45 nations, they discovered that businesses in these regions, where shareholders' rights are least safeguarded, kept twice as much money as those in nations with outstanding shareholder protection. Their support for the supposition that shareholders in nations with weak shareholder protection cannot compel management to relinquish large cash stockpiles is solid.

Literature Review

Cash is a vital liquid asset and is the concern to examine the firm's performance to pay its obligations in the long run. It plays a critical role because it contributes high value to firms with ample liquidity where firms can pay their outflows in time as if severities'. To improve profits and sales, a firm needs to keep cash assets by supporting future needs and adjusting the optimist cash flow position. Therefore, Cash is essential for organizations to revitalize a business in the long run in profitable ways.

Gaio, Gonçalves, and Venâncio (2022) provided a critical analysis and revealed that cash holdings are negatively connected to the Size of a firm. Leverage could function as a substitute for an organization's competence to issue debt which proposed that highly leveraged firms have more capability to issue debt. Therefore, an indirect relationship is expected between the leverage ratio and the cash holding. Dividend-paying firms must maintain a higher amount of Cash holding for paying dividends. So, a direct link exists between cash holding and dividend payment. Firms with unstable cash flows can suffer from cash shortages at any time. Cash shortage carries many costs to a firm, like preceding attractive investment opportunities and costs of bankruptcy. To deal with a such cash shortfall, more cash holdings must be sustained as a defensive (Bigelli, & Sánchez-Vidal, 2012). So, a direct relation is expected between the degree of cash flow capriciousness and cash holdings.

The factors that Portuguese manufacturing small and medium-sized businesses used to determine their cash holdings. Empirical findings showed that factors such as business size, liquidity, leverage, existing capital structure, and relationship with cash flow improbability substantially impacted the amount of cash manufacturing companies held in reserve (Yanti, Sastra, and Kurniawan, 2022). A panel data approach was used by Kumar, Singh, and Khan (2021) to explore the corporate cash-holding choice of nonfinancial enterprises using a small sample of eighty listed organizations. The findings demonstrated that business size and growth prospects had no discernible impact on cash holding. However, the firm's cash flow, leverage, and current assets had a considerable detrimental impact.

Additionally, profitability and dividend policy have a good link with cash holding. Focusing on liquid assets, they also looked at how a collection of descriptive indicators may affect a firm's borrowing. The research also showed that the debt ratio is adversely correlated with profitability, asset tangibility, growth potential, fixed assets, and liquidity and favorably correlated with firm Size. Liquidity, non-debt tax shields, firm Size, asset tangibility, and cash ratio are all positively correlated with debt ratio. This relationship also exists for the relationship between debt ratio and cash ratio. Additionally, profitability and growth are inversely correlated with long-term debt. The tangibility of assets, firm Size, cash ratio, and its many methods all negatively correlate with short-term debt.

Opoku-Asante, Winful, Sharifzadeh, and Neubert (2022) investigated the impact of financial performance and industrial sectors using the panel data of listed companies. The results of this study suggested that converse to the financial theory of trade as the negative association between debt and financial performance.

Hoang, Nguyen, Tran, and Phan (2022) found firms' cash holdings in thirty-one non-European and fifteen European countries. They discovered that the establishment of the Economic & Monetary Union (EMU) and the introduction of the euro decreased Cash reserving from companies in areas of Europe. Moreover, they also exposed that companies keep too much liquidity as there are many opportunities for investment in the upcoming turnover. The firm's Size had a positive link with the cash ratio in the EMU. They claimed that current outcomes in response to the existence of cash flow had a positive relationship with cash ratio as companies that earn handsome income be liable to keep handsome amounts of Cash for precautionary motives. The negative relationship between net working capital and cash ratio could be used as a liquidity standby. Cash holding has a positive connection with Capital cost as administrations are likely to keep up the level of Cash in the period of growth opportunities (GO). Leverage and cash ratio had a negative connection because the availability of more debt could be considered a cash alternative. In addition, firms that pay dividends likely keep a higher level of Cash in dealing with this financial debt.

Magazzino and Mele (2022) discovered the factors of cash ratio in EMU countries. Their study discovered that Cash holding positively correlated with the cash flows and set of investment and leverage, and Size and liquidity had negatively linked with Cash. Cash holdings and debts are negatively linked, which shows that a strong association with financial institutes allows corporations to keep the minimum amount of Cash for protective situations. Organizations with concentrated ownership and better investor protection keep less Cash in good governance areas.

Saif Ul Islam, Meo, and Usman (2022) recognized a positive correlation between profitability and cash ratio. They took cash flow as an independent variable and income as a corporation that could envelop an adequate level of cash flow through its current operations can be measured by excess organizations. Alkhataybeh, AlSmadi, Shakhatreh, and Khataybeh (2022) also found that the growth variable at Kuwaiti corporations and the future decision to keep Cash was no significant effect. On the other hand, results also showed that debt has a negative effect on corporations' cash holding.

To understand these patterns in cash holding, Hasan, Alam, Paramati, and Islam (2022) looked at the connection between cash holding and company characteristics. According to the empirical findings, cash holdings are positively correlated with volatility, R&D spending, and market book ratio, while negatively correlated with cash holdings include corporate Size, net working capital, cash flow, and leverage.

Hypotheses:

H 1: A company's cash holdings and cash flow are strongly inverse.

H 2: The amount of Cash a corporation has is significantly positively correlated with its Size.

H 3: The firm's profitability (ROA) and Cash on hand are significantly positively correlated.

H 4: Leverage and the amount of Cash a corporation has on hand are positively correlated.

H 5: The relationship between a company's dividends and its cash holdings is unfavorable.

H 6: A firm's cash holdings and liquidity relationship are favorable and essential.

Methodology

To achieve the study's objective, secondary data from 39 food companies were collected from the State Bank of Pakistan over 8 years (2013 to 2020). The undermentioned dependent and independent variables were used in the study. EViews was the software to be applied to draw the study's empirical results.

Dependent Variable

The cash Ratio was the dependent variable used in the study. It was calculated as Cash plus cash equivalent. As literature had identified, many scholars and researchers calculated the same as the current study, like Lu, Zong, Reve, and Song (2022).

Cash Ratio (CR) = Cash + Cash Equivalents/Total Assets

Independent Variables

Cash flow was calculated to add the depreciation expense interest over total assets excluding Cash. The same formula was used by Mahajan & Chen (2010).

Cash flow (CF) = Earnings before tax + Depreciation/Total assets-cash

Return on Assets

The Return on assets (ROA) was used to measure the overall effectiveness of the business in generating profits with its current available assets. Higher Return on assets shows efficient business operations and management to generate profit. The same measure was also used by Titman and Wessels (1988).

Return on Assets (ROA) = Earnings after tax /Total Assets

Leverage

Leverage is an advantageous technique in which corporations get debts from financial institutions with a relatively small cost yield at a comparatively high level of returns. Leverage (LEV) was calculated as the total liabilities over total assets. The same formula was used by Fahad and Scott (2022).

Leverage (LEV) = Total Liabilities over Total Assets

Dividends

The dividend ratio is the number of dividends paid to stockholders from the company. It has been measured as total cash dividend to total assets.

Dividend (DIV) = Cash Dividends/ Total Assets

Liquidity (LIQ)

Liquidity leads to liquid assets, which could be converted quickly into Cash with a low impact on the received price. These assets were measured as NWC (net working capital) minis divided by total assets. Liquid assets also mean short-term assets' ability to pay short-term liabilities.

Liquidity (LIQ) = NWC – Cash over Total Assets

Firm's Size

The firm's Size is calculated by the total assets and is measured as the logarithm of the company's total assets. It's an independent variable of the study which means the higher the firm Size higher the profitability. The same measure was used by Ahmed (2022) and Digdowiseiso and Cindy (2022).

Firm's Size = Ln (Total Assets)

The literature review that was conducted on the productivity of cash holding as well as the advantage that was discussed in the previous two sections serves as the foundation for the current study to create the research hypothesis and questions. These sections contain specifics of the approach that was employed by giving a theoretical basis or rationale, a description of variables, and a model about the cash holding efficiency and productivity development of food firms that are listed on the Karachi Stock Exchange. The first section of this analysis looks at the strategies that are used in the administration of cash holdings and profitability. Specifically, it investigates the influence that cash holdings management has on the profitability of food-producing companies. In the following paragraphs, we will talk about the theoretical reason, model, and variables that are used to estimate the overall profitability factor and its sources for Pakistan's food manufacturing industry. In contrast to this, the third section examines the sample and data that were used in the research.

If the findings that are derived from a pooled OLS sample are suitable according to this table, then both the Fixed Effects Model and the Random Effects Model are evaluated in comparison with one another. In order to determine which model should be implemented, the Housman test is carried out. With the use of this test, the null hypothesis is "no systematic dissimilarity in coefficients." If the null hypothesis H0 is not accepted, then it will be feasible to get accurate findings by using the Fixed Effects Model. In such a case, the Random Effects Model is the one that has to be used. Using the multiplier test developed by Breusch, Pagan, and Lagrange, the Random Effects Model provides evidence for the adoption of the previously mentioned H0. If the Breusch Pagan LaGrange test determines that the null hypothesis "There are no Random Effects" cannot be supported, then the Random Effects Model, rather than the pooled ordinary least square regression procedure, will be utilized to analyze the data.

Since the website of the State Bank of Pakistan is considered to be a reliable source in Pakistan, data were obtained from there and downloaded. The reason for this is that the KSE has listed the maximum number of companies involved in manufacturing.

In order to verify the hypothesis underlying this study, several statistical models, such as the Fixed Effects and Random Effects Model and the Pooled Ordinary Least Squares Model, were applied to the data in order to conduct an analysis of the variables. Regression and correlation were also employed in order to investigate the nature of the connection between the independent variables, such as CF, DIV, LEV, ROA, and Size, and the variable based, which is denoted by the term Given. Applications such as Microsoft Excel and STATA were used for the purpose of doing the analysis of the different variables. For the purpose of conducting the regression analysis on the data included in this research, the panel data

approach will be used. In order to carry out the panel regression analysis, the time-series data and the cross-sectional data were combined into a single set.

The data panel method was used in order to analyze the effect that the competence of various firm-level components had on the amount of cash that was held by companies in the manufacturing sectors. Utilizing panel data strategies has a number of distinct advantages. These advantages include the fact that the problems caused by heterogeneous company characteristics, low multicollinearity between variables, more instructive data, an additional degree of freedom, and additional data gaps are circumvented, which ultimately leads to increased estimator efficiency (Wenger, Gärtner, & Brunner, 2020). Hsiao, (2004) case that panel data makes it possible for us to generate more accurate predictions, keep an eye on variability, and give micro-foundations for aggregate data analysis. Determining the link between the variables, specifically using the Pearson Correlation Coefficients, is done with the purpose of doing research. The effect of cash holding efficiency on a company's profitability was analyzed by using a balanced panel of food manufacturing businesses that are listed on the Karachi Stock Exchange.

$$Cash_{it} = \beta_0+\beta_1 CF+ \beta_2 DIV+\beta_3 LEV+\beta_4 LIQF+ \beta_5 ROA+\beta_6 SIZE+\varepsilon \quad \text{Eq 1}$$

Where β_0 is the intercept of the equation, is β_1, the coefficients of independent variables, i is No. of firms and the T is time period, ε is the error term

Results and Discussion

Statistical Descriptive

Table 1 tables indicate the number of observations for the whole research variable, which is 312 for the study period from 2013 to 2020. The mean value of leverage is 59.96, the highest value among all the independent variables of the research. Moreover, Size and Return on assets have a standard deviation, and maximum values are 2.24, 11.25, and 17.74, 49.61, respectively. Standard deviation indicates the deviation of values from the average values. Meanwhile, the median cash ratio is 1.88 and -1.80 for liquidity. The current study showed that the exploratory variables of the study are constant in the particular period of the research.

Table 1
Descriptive statistics

	Cash ratio	Cash flow	ROA	Leverage	Dividend	Liquidity	Size
Observations	312	312	312	312	312	312	312
Mean	5.64	12.71	5.115	59.96	18.86	-5.59	14.22
Median	1.88	9.08	4.141	68.85	6.86	-1.81	14.31
Std. Deviation	9.82	16.93	11.242	25.04	106.48	9.83	2.23
Minimum	1.62	-31.27	-30.83	22.64	5.810	-57.58	1.10
Maximum	57.61	83.30	49.61	120.60	809.460	9.110	17.74

For further analysis, the correlation matrix estimates the relationship between two variables, whether they have a positive, negative, or no relation between dependent and exploratory variables.

Table 2
Correlations Matrices

	Cash Ratio	Cash Flow	ROA	Leverage	Dividend	Liquidity	Size
Cash Ratio	1						

Cash Flow	0.125*	1					
ROA	0.144*	.755**	1				
Leverage	-0.488**	-.166**	-.258**	1			
Dividend	0.03*	.233**	.214**	-0.069	1		
Liquidity	-.776**	.278**	-0.068	.343**	-0.038	1	
Size	-0.066	0.200**	.126*	.417**	0.034	0.002	1

*. Correlation is significant at 0.05 levels (2-tailed)

*. Correlation is significant at 0.01 levels (2-tailed)

Table 2 shows the results of correlations for whole variables in the study. The cash ratio and leverage value are -.488, which is harmful and significant at .01 levels. Moreover, ROA and cash ratio values are .144, positively correlated at .05 levels. The value of the correlation of cash ratio and cash flow is .125, which is positively significant at .05 levels. On the other hand, the correlation between firm size and cash ratio is negative but insignificant, with a value of -.066.

Table No. 3
Regression results (Fixed-effect model, random effects model, and pooling ordinary least squares model)

	Fixed-effects	Random effects	Pooling OLS
β_0	0.9475	0.4108	0.0507*
	(0.1276)	(1.4685)	(3.8735)
β_1CF	0.3937	0.0013**	0.0000***
	(-0.0247)	(-0.0848)	(-0.2159)
β_2DIV	0.8678	0.7889	0.8759
	(0.0003)	(0.0005)	(0.0004)
β_3LEV	0.0552*	0.0000***	0.0000***
	(-0.0450)	(-0.0716)	(-0.0909)
β_4LIQ	0.0000***	0.0000***	0.0000***
	(-0.8148)	(-0.8030)	(-0.7782)
β_5ROA	0.5093	0.1097	0.0000***
	(-0.0285)	(0.0623)	(0.2640)
β_6Size	0.0807*	0.0201**	0.0592*
	(0.2893)	(0.3323)	(0.2993)
R squared	0.871019	0.691257	0.709794
Adjusted R squared	0.845719	0.685184	0.704085
F statistic	34.42737	113.8130	124.3297
(P value)	0.0000	0.0000	0.0000
Number of observations	312	312	312

Where cash ratio is dependable variable and CF, DIV, LEV, LIQ, ROA and Size are independent variables. The numbers in brackets are coefficients, ***, **, * indicate coefficients are significant at the 1%, 5% and 10% levels respectively for the period of 2005-2012.

Table 4 explains the outcomes of pooled OLS regression model for the sample of 39 food industry corporations. The outcomes of OLS described that the Model is significant at 5% with 124.32 F-statistics. The adjusted R squared is higher at 70%, meaning the independent variables were explained by 70% of the dependent variables. Further explanation of variables, cash flow has a significant negative coefficient with the dependent variable for the research. It means cash flow and cash ratio have a negative relationship. This result was also matched by Wiguna and Murwaningsari (2022).

Table 4
Regression Results

	Pooling OLS
β_0	0.0507*(3.8735)
β_1CF	0.0000***(-0.2159)
β_2DIV	0.8759(0.0004)
β_3LEV	0.0000***(-0.0909)
β_4LIQ	0.0000***(-0.7782)
β_5ROA	0.0000***(0.2640)
β_6Size	0.0592*(0.2993)
R squared	0.709794
Adjusted R squared	0.704085
F statistic	124.3297
(P value)	0.0000
Number of observations	312

Cash ratio is a dependent variable, and CF, DIV, LEV, LIQ, ROA, and Size are independent variables. The coefficients numbers are in the brackets, ***, **, * showed coefficients are the 1%, 5%, and 10% levels significant from 2008 to 2015.

When firms pay more dividends than they must maintain high levels of Cash, the dividend ratio has a positive but minor relationship with the cash ratio. Numerous studies produced similar findings to those of Prianda, Sari, and Rambe (2022). Leverage and the cash ratio are significantly and negatively correlated. Additionally, the outcome mirrored Ezejiofor and Emeneka (2022). Furthermore, according to Eke and Ringin (2022), there is a negative and substantial correlation between liquidity and cash ratio, which suggests that when firms have strong liquidity, they prefer to hold less Cash. An identical result was discovered by Onyango, Gatumo, Rasheed, Shahid, Mukhtar, and Ishaq in 2022. The cash ratio and return on assets have a perfect connection. The pecking order hypothesis also explains this beneficial relationship. The same results apply to Saputra, 2022. The food business has a strong positive relationship between firm size and cash ratio. It implies that more prominent firms must maintain greater liquidity and profitability. The findings of several additional researchers, including Sari, Isabella, and Fadlilah (2022) and Ganda (2022).

Table 5
Effects Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	8.404975	(38,260)	0.0000
Cross-section Chi-square	250.003281	38	0.0000
Period F	0.315816	(7,260)	0.9465
Period Chi-square	2.641643	7	0.9161
Cross-Section/Period F	7.222125	(45,260)	0.0000
Cross-Section/Period Chi-square	253.007898	45	0.0000

In table 5 we applied the different tests to inference's our results to select the appropriate model.

Table 6
Correlated Random Effects - Hausman Test

Cross-section Random	55.571578	6	0.0000
Test summary	Chi-Sq. Statistics	Chi-Sq. d.f.	Prob.

In table 6 where the p-value is significant, it means the random effect model is not suitable. We run a fixed effect then we applied the Hausman test which show the value is more than 5% so we concluded that Pooled OLS is an efficient model for inferences our results.

Conclusions

A study of the food business listed on the Karachi Stock Exchange was done to investigate the factors that influence cash holding. Data were gathered from the State Bank of Pakistan's websites for eight years (2013 to 2020) to meet the study's goals. This research used a panel data technique, pooled ordinary least squares, using a sample of 39 businesses. Descriptive statistics and correlation analysis were used in the research. The study's findings demonstrated that the cash flow coefficient has a considerable adverse impact on the cash ratio, i.e., if the quantity of cash flow is larger, the business would keep less Cash, and vice versa.

Additionally, there is a strong correlation between Return on Assets and Cash Ratio, which suggests that Cash will also be high if the Return is high. Additionally, it demonstrated the management's success in generating significant profits. The cash ratio has a strong negative correlation with liquid assets. As a result, businesses with high cash liquidity prefer to retain smaller amounts of Cash on hand since they may use their liquid assets to make up for cash shortages. The amount of Cash held by the company has a hugely beneficial impact on Pakistan's food industry. The study's findings revealed a wealth of information on Pakistan's choice to hoard Cash. Finally, the analysis identified the significant actors that Pakistan's food business has neglected.

Limitations

The following limitations are measured: -

1. Some of the listed and non-listed firms' results are not integrated.
2. The factors concerning corporate cash holding have not been done by self-determining research. In addition, research was related to corporate Cash holding because there is a lack of research work in this ground of study sources in Pakistan.

Recommendations

We recommended to the firms they must optimize their cash level to maximize the firm’s financial performance. Firms should manage their dividend declaration and distribution among the shareholder. All financial management will boost shareholder wealth.

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