The Impact of Financial Flexibility and Business Risk on Capital Structure with Firm Size as a Moderating Variable.

Zaib-un-nisa

Znisa5214@gmail.com

Abstract: *The aim of this research is to identify factors influencing cash holding options in the Pakistani food sector in order to make appropriate recommendations. The State Bank of Pakistan collected data from 39 food companies from 2013 to 2020 for research. We apply static panel data analysis techniques to the inference result using correlation analysis, descriptive statistics, and a pooled ordinary least squares regression model to investigate specific companies. Cash flow, leverage and liquidity ratio adversely affected cash and cash equivalents; found the search. Profitability and cash and cash equivalents are strongly correlated. Finally, dividend policy and cash and cash equivalents showed little correlation. This study helped management make reasonable choices for holding cash. Food companies need to keep their cash levels at optimal levels to improve their profitability.*

Keyword: Cash Holding, Decision Making, Dividend, Firm Size, Liquidity

Introduction

Over the past two decades, non-financial corporations have piled up significantly liquidity around the world due to the expectation of the crisis. In a crisis, external financing is challenging and becomes more expensive to obtain in tight economic markets. As a result, firms are looking to develop cash-raising efforts to fend off outside capital, such as bank loans, equity offerings, and bond offerings, in reaction to stress.

Cash provides liquidity and is essential for businesses to function. The most critical component of an organization's resources is it. Organizations are encouraged to keep cash available to meet commitments, secure operations and have good investment prospects (Tahir, Quddus, Kahnum, & Usman, 2020). In recent years, corporate finance studies have increasingly turned their attention to cash management strategies as a prominent field of study. However, the company must manage its influential cash position to meet its capital investment and operations demands.

Keynes (1936) outlined three reasons why businesses might need to save money. These three objectives or reasons, namely the preventive objective, the transactional objective and the speculative objective. In other words, the objective of the operation encourages companies to have liquidity available to carry out their day-to-day operations and reduce costs associated with the sale of other assets. Rather, the precautionary focus encourages companies to keep cash available to meet any future funding wishes. Rather, the speculative focus drives companies to have cash available to generate interest income by investing in short-term securities (Hirsch, 2021).

In theory, a business can hoard cash for a variety of reasons. Transaction fees are a frequent motivation (Zhou, Wang, Kamei, Hassan, & Ubayashi, 2022). One an example of transaction costs are profit taxes. This statement was suggested by (Stavins, 2022). The second is called cautious saving and encourages firms to hold more cash when external financing frictions make it difficult to exploit attractive investment opportunities (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 a fiscal justification (Ghufran, Ashraf, Rizwan, Ali & Aldieri, 2022) and a preventive savings purpose, as cash flow is more unpredictable. According to Faulkender and Wang, (2006), changes in the cost of carrying cash can be attributed to changes in the cash holdings of companies. Similarly, Humpe and Macmillan (2009), who argue that firms' cash holdings are negatively correlated with inflation, concluded that fluctuations in the real value of cash are in cash. Using data from the 1920s, Canil and Karpaviius (2022) found conflicting evidence on the reasons for preemptive saving and argued for a fiscal explanation for the increase in cash holdings

Literature Review

Cash is a vital liquid asset and it is the concern to examine the company's performance to pay its long-term obligations. It plays a vital role because it provides high value to companies with ample liquidity where companies can pay their outputs on time as if severities. To improve profits and sales, a company must hold cash assets supporting future needs and adjusting to the optimistic cash flow position. Therefore, cash is essential for organizations to revitalize a long-term business in a profitable way.

Gaio, Gonçalves and Venâncio (2022) provided a critical analysis and revealed that cash holdings are negatively related to firm size. Leverage could serve as a surrogate for competition from a debt issuance organization that proposed that highly leveraged companies had a greater ability to issue debt. Therefore, an indirect relationship is expected between the leverage ratio and the cash held. Companies that pay dividends need to keep more cash on hand to pay dividends. Therefore, there is a direct link between holding cash and paying dividends. Companies with volatile cash flows can experience liquidity shortages at any time. Shortage of liquidity entails many costs for a company, such as previous attractive investment opportunities and bankruptcy costs. To address such a

shortage of liquidity, more liquidity reserves need to be maintained as a defensive measure (Bigelli and Sánchez-Vidal, 2012). Therefore, a direct relationship is expected between the degree of capriciousness of cash flow and liquid assets.

The factors that Portuguese small and medium-sized manufacturing companies have used to determine their liquid assets. Empirical findings showed that factors such as firm size, liquidity, leverage, existing capital structure, and relationship to cash flow improbability substantially influenced the number of cash-generating firms held in reserve (Yanti, Sastra and Kurniawan (2022). Kumar, Singh, & Khan (2021) used a panel data approach to explore the choice of holding corporate cash by non-financial firms using a small sample of eighty publicly traded organizations. The results showed that the company's size and growth prospects had no visible impact on cash and cash equivalents. However, the company's cash flow, leverage and current assets have had a significant negative impact.

Furthermore, profitability and dividend policy have a good relationship with cash and cash equivalents. Focusing on liquid assets, they also examined how a collection of descriptive indicators can influence a company's leverage. The research also showed that the debt-to-GDP ratio negatively correlates with profitability, asset tangibility, growth potential, fixed assets and liquidity, and favorably correlates with firm size. Cash, non-debt tax savings, company size, asset tangibility, and cash ratio are all positively correlated with the debt-to-GDP ratio. This relationship also exists for the ratio of the debt ratio to the liquidity ratio. Furthermore, profitability and growth are inversely related to long-term debt. Asset tangibility, company size, cash ratio, and its many methods correlate negatively with short-term debt.

Opoku-Asante, Winful, Sharifzadeh, & Neubert (2022) studied the impact of financial performance and industry sectors using panel data from publicly traded companies. The results of this study suggested contradicting the financial theory of trade as a negative association between debt and financial performance.

Hoang, Nguyen, Tran, and Phan (2022) surveyed the cash holdings of firms in thirty-one non-European and fifteen European countries. They found that the establishment of Economic and Monetary Union (EMU) and the introduction of the euro reduced the cash reserves of companies in some parts of Europe. Furthermore, they also exposed that the companies are holding too much cash as there are many investment opportunities in the next billing. Company size had a positive relationship with the liquidity ratio in EMU. They said current results in response to the existence of cash flow had a positive relationship with the cash ratio, as companies earning good incomes may hold large amounts of cash for precautionary reasons. The negative ratio of net working capital to cash ratio could be used as a liquidity buffer. Holding cash has a positive connection to the cost of capital as managers are likely to hold the level of cash into the growth opportunity (GO) period. Leverage and the cash ratio were negatively related because having more debt could be viewed as a cash alternative. In addition, dividend paying companies are likely to hold a higher level of cash to service this financial debt.

. Magazzino and Mele (2022) discovered the factors of the cash ratio in the EMU countries. Their study found that cash holdings were positively correlated with cash flows, investment pool and leverage, and size and liquidity were negatively correlated with liquidity. Cash and debt are negatively linked, demonstrating that strong partnerships with financial institutions allow companies to maintain the minimum amount of cash for cover situations. Organizations with concentrated ownership and better investor protection hold less cash in areas of good governance

. 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 a company's income that could result in 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 in Kuwaiti companies and the future decision to hold Cash did not have a significant effect. On the other hand, the results also showed that debt has a negative effect on companies' cash holdings.

To understand these patterns in cash holdings, Hasan, Alam, Paramati, and Islam (2022) analyzed the connection between cash holdings and firm characteristics. Consistent with empirical findings, cash and cash equivalents are positively correlated with volatility, R&D expenditure, and market ratio, while cash and cash equivalents are negatively correlated with firm size, net working capital income, cash and financial leverage.

Hypothesis:

H 1: A firm's cash and cash flows are strongly inverse.

H 2: The amount of liquidity a company has is significantly positively correlated with its size.

H 3: Company profitability (ROA) and available liquidity are significantly positively correlated.

H 4: Leverage and the amount of cash a company has available are positively correlated.

H 5: A company's dividend-to-liquidity ratio is unfavourable.

H 6: A company's cash holdings and liquidity ratio are favorable and essential.

Methodology

To achieve the objective of the study, secondary data was collected from 39 food companies of the State Bank of Pakistan for 8 years (from 2013 to 2020). The following dependent and independent variables were used in the study. E Views was the software applied to draw the empirical results of the study.

Dependent variable

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

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

Independent variables

Cash flow was calculated by adding interest from depreciation expenses to 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

Return on assets (ROA) was used to measure the company's overall effectiveness in generating profits with its currently available resources. Higher return on assets shows efficient business management and operations 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 companies obtain debt from financial institutions with a relatively low cost return at a relatively high level of return. Leverage (LEV) was calculated as total liabilities versus total assets. The same formula has been used by Fahad and Scott (2022).

Leverage (LEV) = Total liabilities relative to total assets

Dividends

The dividend ratio is the number of dividends paid to the company's shareholders. It was measured as total cash dividends over total assets.

Dividend (DIV) = Cash Dividends / Total Assets

Liquidity (LIQ)

Liquidity leads to liquid assets, which could be quickly converted into cash with little impact on the price received. These assets were measured as mini NWC (net working capital) divided by total assets. Liquid assets also indicate the ability of short-term assets to pay short-term liabilities.

Liquidity (LIQ) = NWC - Cash over Total Assets

Firm size

Firm size is calculated from total assets and is measured as the logarithm of the company's total assets. It is a study-independent variable, meaning that the larger the company, the higher the profitability. The same measure was used by Ahmed (2022) and Cindy (2022).

Firm Size = Ln (Total Assets)

The literature review that was conducted on the productivity of cash holding, as well as the benefit discussed in the previous two sections, serves as the basis for the present study to create the hypothesis and research questions. These sections detail the approach used by providing a theoretical basis or rationale, description of variables and a model on the efficiency of cash holding and productivity development of publicly traded food companies. The first section of this analysis discusses the strategies used in cash and profitability management. Specifically, it investigates the influence that treasury management has on the profitability of food manufacturing companies. In the following paragraphs we will talk about the theoretical ratio, model and variables used to estimate the overall profitability factor and its sources for Pakistani food manufacturing industry. In contrast, the third section looks at the sample and data that was used in the research

If the results from a pooled OLS sample are adjusted according to this table, both the fixed effects model and the random effects model are compared to each other. To determine which model should be implemented, the Housman test is performed. Using this test, the null hypothesis is "no systematic dissimilarity in the coefficients". If the null hypothesis H0 is not accepted, it will be possible to obtain accurate results using the fixed effects model. In that case, the random effects model is the one to use. Using the multiplier test developed by Breusch, Pagan and Lagrange, the random effects model provides evidence for the adoption of the above H0. If the Breusch Pagan LaGrange test determines that the null hypothesis "No random effects" cannot be supported, the random effects model will be used to analyze the data, rather than the pooled ordinary least squares regression procedure.

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

To test the hypothesis behind this study, various statistical models, such as the Fixed Effects and Random Effects Model and the Combined Ordinary Least Squares Model, were applied to the data to perform variable analysis. Regression and correlation were also used to investigate the nature of the connection between the independent variables, such as CF, DIV, LEV, ROA and Size, and the based variable, denoted by the term Given. Applications such as Microsoft Excel and STATA were used to perform the analysis of the different variables. In order to perform the regression analysis on the data included in this survey, the panel data approach will be used To perform panel regression analysis, time series data and cross-sectional data were combined into one set.

The panel data method was used to analyze the effect that competition from various firm-level components had on the amount of cash held by firms in manufacturing sectors. Using panel data strategies has a number of distinct advantages. These benefits include the avoidance of problems caused by heterogeneous firm characteristics, low multicollinearity between variables, more informative data, an additional degree of freedom, and additional data gaps, ultimately leading to higher estimator efficiency (Wenger, Gärtner, and Brunner, 2020). Hsiao, (2004) argues that panel data allows us to generate more accurate forecasts, control for variability, and provide micro-foundations for analysis of aggregated data. Determining the link between variables, especially using Pearson's correlation coefficients, is done for the purpose of conducting research. The effect of cash holding efficiency on a company's profitability was analyzed using a balanced panel of food manufacturing companies listed on the Karachi Stock Exchange

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

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
Descriptive statistics
The tables in Table 1 indicate the number of observations for the entire research variable, which is 312 for the study period 2013 to 2020. The mean value of leverage is 59.96, the highest value among all variables independent of the investigation. In addition, asset size and return have one standard deviation, and the maximum values are 2.24, 11.25 and 17.74, 49.61, respectively. The standard deviation indicates the deviation of the values from the mean values. For its part, the median cash ratio is 1.88 and the liquidity ratio is -1.80. The present study demonstrated that the exploratory study variables are constant over the particular investigation period

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 deeper analysis, the correlation matrix estimates the relationship between two variables, whether they have a positive, negative, or no relationship between the dependent and exploratory variable

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)
The correlation is significant at the 0.01 level (2 tails)
Table 2 shows the results of the correlations for all study variables. The liquidity ratio and leverage value are -.488, which is harmful and significant at .01 levels. In addition, the ROA and cash ratio values are .144, positively correlated to levels of .05. The value of

the correlation between cash ratio and cash flow is .125, which is positively significant at the .05 level. On the other hand, the correlation between the size of the company and the liquidity index was negative but not significant, with a value equal to -.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 the cash ratio is a reliable variable and CF, DIV, LEV, LIQ, ROA and Size are independent variables. Numbers in parentheses are coefficients, ***, **, * indicate that the coefficients are significant at 1%, 5%, and 10%, respectively, for the period 2005-2012. Table 4 illustrates the results of the OLS regression model aggregated for the sample of 39 companies in the food industry. The OLS results describe the model as significant at 5% with an F statistic of 124.32. The adjusted R-squared is greater than 70%, meaning that the independent variables were explained by 70% of the dependent variables. Further explaining the variables, cash flow has a significant negative coefficient with the dependent variable for the survey. It means that 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 (P value)	124.3297
	0.0000
Number of observations	312

Cash ratio is a dependent variable and CF, DIV, LEV, LIQ, ROA and Size are independent variables. Coefficient numbers are in parentheses, ***, **, * Coefficients shown are the significant levels of 1%, 5% and 10% from 2008 to 2015.

When companies pay more dividends than necessary to maintain high levels of cash, the dividend ratio has a positive but lesser relationship to the cash ratio. Numerous studies have produced results similar to those of Prianda, Sari and Rambe (2022). Leverage and cash ratios are significantly and negatively correlated. Furthermore, the result reflects Ezejiofor and Emeneka (2022). Furthermore, according to Eke and Ringin (2022), there is a substantial negative correlation between liquidity and cash ratios, suggesting that when firms have strong liquidity, they prefer to hold less cash. Onyango, Gatumo, Rasheed, Shahid, Mukhtar and Ishaq found identical result in 2022. Cash ratio and return on assets have perfect connection. The pecking order hypothesis also explains this beneficial relationship. The same findings apply to Saputra, 2022. The food sector has a strong positive relationship between company size and cash ratio. It implies that the most important companies must maintain greater liquidity and profitability. The results of several other 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 that the random effects model is inadequate. We run a fixed effect and then apply the Hausman test which shows the value is greater than 5%, then conclude that Pooled OLS is an efficient model to infer our results.

conclusions

A study was conducted on the food business listed on the Karachi Stock Exchange to investigate the factors affecting cash holdings. Data was collected from State Bank of Pakistan websites for eight years (2013 to 2020) to achieve the objectives of the study. This research used a panel data technique, pooled ordinary least squares, using a sample of 39 companies. Descriptive statistics and correlation analyzes were used in the research. The results of the study showed that the cash flow ratio has a significant negative impact on the cash ratio, ie, if the amount of cash flow is greater, the company will hold less cash and vice versa.

Furthermore, there is a strong correlation between the return on assets and the liquidity ratio, suggesting that liquidity will also be high if the yield is high. Furthermore, it demonstrated management's success in generating significant profits. The cash ratio has a strong negative correlation with liquid assets. As a result, companies with high cash liquidity prefer to hold small amounts of cash, as they can use their liquid assets to compensate for liquidity shortfalls. The amount of cash held by the company has an extremely beneficial impact on the Pakistani food industry. The study's findings revealed a wealth of information about Pakistan's decision to hoard cash. Finally, the analysis identified the important players that the Pakistani food business has been neglecting.

Limitations
The following constraints are measured:
1. Some of the results of listed and unlisted companies are not integrated.
2. The factors relating to the companies' cash balances were not conducted through self-determined research. Furthermore, the research was related to the cash holdings of the companies because there is a lack of research work in this field from study sources in Pakistan.

Recommendations
We recommend companies that need to optimize their level of liquidity to maximize the company's financial performance. Companies have to manage the declaration and distribution of dividends among shareholders. All financial management will increase the wealth of the shareholders.

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