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Corporate Social Responsibility, Earnings Management, and Cash Holding: A Study of Non-Financial Firms in Pakistan

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ARTICLE DETAILS	ABSTRACT
<p>History: Received: September 18, 2024 Accepted: October 11, 2024</p> <p>Keywords: Corporate Governance Earnings Management CSR PSX</p> <p>DOI: 10.52700/assap.v5i2.406</p>	<p>This study investigates the interplay between corporate social responsibility (CSR) practices, earnings management (EM), and cash holdings in Pakistani non-financial publicly listed companies (PLCs). Spanning the period from 2013 to 2022, the research aims to provide empirical insights into how CSR initiatives influence financial practices within the Pakistani context. Methodologically, the study employs descriptive statistics, panel unit root tests, Breusch Pagan (BP) test for heteroscedasticity, Wooldridge serial correlation test, Chow test, Breusch Pagan Lagrange Multiplier (BPLM) test and Hausman test. It also compares the regression results of Pooled Ordinary Least Squares (POLS), fixed effects (FE), and random effects (RE) models to analyze a sample of 202 non-financial firms listed on the Pakistan Stock Exchange. The implications of these findings underscore the importance of strategic CSR integration to enhance financial transparency, mitigate agency conflicts, and foster sustainable corporate growth. Managerial implications suggest that executives should focus on enhancing board effectiveness, strengthening audit oversight, aligning managerial incentives with long-term shareholder interests, and integrating CSR initiatives into core business strategies. However, the study acknowledges several limitations. These include the sector-specific focus on non-financial firms, which may limit generalizability to other sectors within the Pakistani economy. The study's reliance on panel unit root tests and econometric models, while robust, may benefit from alternative methodological approaches and sensitivity analyses.</p> <p>© 2024 The Authors, Published by WUM. This is an Open Access Article under the Creative Common Attribution Non Commercial 4.0</p>

1. Introduction

It is impossible to underestimate the importance of corporate cash holdings for its liquidity requirements, stability, and investment. Cash reserves help firms to control and fund

operating costs, meet obligations and minimize costly external financing, thus increasing investor trust, and firm value (Opler et al., 1999). Due to the fact that the management of cash is dynamic, it is influenced by economic interferences and mechanisms of governance (Bates et al., 2009; Al-Najjar & Belghitar, 2011). Cash is usually maintained for transactions, for precautionary purposes, for speculation, for agency, and for taxes with all of them having importance in corporate finance (Keynes, 1936; Myers & Majluf, 1984; Jensen, 1986; Foley et al., 2007). The transaction motive is the need to have cash for the normal business transactions while the precautionary motive relates to the need to have cash to avoid any possible risks in business (Bates, Kahle & Stulz, 2009; Mansoor et al., 2013). This is a way through which the firms are in a position to tap into new investment opportunities that are available but without necessarily having to go for funds from outside (Myers & Majluf, 1984). The agency motive brings out the reality that conflict may arise between managers and shareholders; managers may retain more cash to gain more control over organizational assets (Jensen, 1986). Also, firms may hold cash to improve on their taxation systems especially regarding their international operations (Foley et al., 2007).

The subject of CSR has emerged as an important determinant of cash holdings because firms are increasingly concerned with their CSR. In line with the Legitimacy Theory, CSR activities depict a firm's adherence to social and environmental standards thus decreasing managerial egoism and increasing the chances of acquiring external finance (Lu et al., 2017; Feng & Rao, 2018). In the developed countries, there is evidence that has been made to show that CSR activities influence the cash holding levels (Forbes, 2013). CSR can also help firms to source capital from other avenues and thus reduce on the cash holdings that are not necessarily needed and increase firm value through increasing transparency and decreasing information asymmetry (Lu et al., 2017).

EM also affects the linkage between CSR and cash holdings in the following way. Managers may engage in the reporting process to attain certain performance targets thus creating agency costs between shareholders and managers (Cohen, Bisogno & Malkogianni, 2019). Recent cases of high profile corporate failures resulting from financial reporting fraud depict the significance of research in this field (Githaiga, Kabete & Bonareri, 2022). EM can manipulate the actual financial health of a firm which calls for ways of dealing with such practices as well as enhancing cash management decisions (Gajdosikova, Valaskova & Durana, 2022).

The analysis of the corporate financial policies, especially cash holdings in the context of Pakistan, which is a developing country with legal and regulatory issues that have not been explored fully. While prior seminal studies are established, the literature concerning the determinants of Cash Holdings in Pakistan is still inadequate, especially concerning CSR and EM (Opler, 1999; Ferreira & Vilela, 2004; Guizani, 2017; Khatib et al., 2021). Previous studies conducted in Pakistan have been quite limited in scope, targeting mostly the textile industry and only a few financial variables, which hampers the generalization of the findings (Khan et al., 2021). These ever-changing and growing risks within the corporate structures require a broader analysis of motives for the cash balance and its effects on the financial health of corporations (Akben-Selcuk & Sener, 2020; Li et al., 2022; Khatib et al., 2022). This research seeks to address this gap by investigating the effect of CSR on cash holdings in Pakistan with emphasis on the moderating effect of EM. It is therefore important to have a grasp of the relationship between CSR, EM and cash holdings to make sound decisions that would increase firm value and sustain its operations. The research will make a contribution to

the existing literature through identifying how CSR practices affect cash management strategies in a developing country context, which has different legal and regulatory frameworks as compared to the developed countries. Furthermore, the research will also focus on the significance of incorporating EM in cash holding decisions in an attempt to provide useful recommendations to the corporate managers and policy makers who seek to enhance financial disclosure and stability (Khatib et al., 2022). In this way, the study will make a contribution to the literature on corporate financial management in emerging markets where the dynamics of CSR and EM are still unfolding and where there are opportunities for performance and value improvement (Hasan et al., 2021; Feng & Rao, 2018).

2. Literature Review

The CSR activities give a lot of information on the future cost and benefits that are useful to all the stakeholders. As identified by Eliwa et al. (2019) and corroborated by Bodhanwala & Bodhanwala (2018), the CSR initiatives assist in lowering the likelihood of risks to the shareholders' reputation. Over 70% of financial institutions lending money in most developed economies take CSR transparency as one of the criteria in their lending decisions. High CSR transparency scores make it easier for firms to obtain external financing; they also imply that firms may also experience a corresponding decrease in their need to hold excess cash (Thompson & Cowton, 2004). In addition, the disclosure of information concerning CSR has been found to lower the agency cost problem and improve information asymmetry issues. These activities actually enhance monitoring capability for investors and so reduce the propensity of managers to indulge in opportunistic behavior. The increase in trust between the firm and lending institutions avails the firm of outside financing at a lower cost. It has also been reported that firms engaged in CSR activities are often perceived to be more honest and trustful. From this viewpoint, the perception helps to increase the ethical and reputation capital of the firm, something that could be an instrument to secure loans at favorable rates (Garriga & Mele, 2004).

Besides this, the precautionary motive for holding cash also factors in the future uncertainties and risks. Benlemlih et al. (2018) and Han & Qiu (2007) expressed that, in firms where CSR transparency is higher, hence face low risks of bankruptcy, income instability, and cash flow volatility. Moreover, Hong and Kacperczyk (2009) lent support to the assertion by suggesting that those firms characterized by higher CSR transparency had less default risk, hence kept lower cash reserves. CSR is a strategic orientation to serve as a competitive advantage. In fact, companies such as Verizon and Campbell Soup Company have managed to integrate ROI into their CSR activities, having proved that an effective CSR orientation may cut its financial risks, remove share price fluctuations, and cut its equity and borrowing costs. These examples illustrate that CSR can act as insurance, whose motive is to lower the precautionary motive of holding a large amount of cash (Riddick & Whited, 2009). The nexus between CSR and cash holdings is an important but multifold one, particularly so in an emerging market scenario. CSR activities not only meet the moral and social duties but also have a strategic effect with financial policies and practices. As Pakistani firms continue to develop with regard to their CSR practices, this understanding of this relationship becomes very necessary.

Hence following hypothesis is formed:

H1. There is a negative association between a company's CSR and company-level cash holdings.

EM is the act of influencing the financial reports with the aim of achieving certain objectives has been found to mediate the relationship between CSR and financial performance (Islami, 2022). This mediation role suggests that the manner in which companies report their earnings can mediate the relationship between CSR and the financial performance of the company. Also, it is argued that corporate governance mechanisms are partial mediators in the relationship between CSR, EM, and corporate governance (Huynh, 2020). This goes to show that organizations are made up of a host of interrelated elements and that these factors work in harmony to affect the financial performance of the organization.

As for cash, the literature has established a positive link between cash and EM. In particular, accruals earnings management (AEM) and real earnings management (REM) have been related to cash holdings, which implies that the use of EM can influence the cash levels in firms (Khurong et al., 2020). Also, research has been conducted on the association between the value of cash and CSR disclosure and the findings suggest that CSR reports may assist in reducing the value loss that is associated with increases in cash holdings (Lu et al., 2016). This means that if CSR is associated with positive firm performance, then firms undertaking CSR might be perceived as more attractive by investors, and therefore, the investors' decision regarding cash holdings may be influenced.

The proposed hypothesis for this relationship may be seen as follows:

H2. Corporate social Responsibility affects the corporate cash holdings through earning management.

3. Methodology

In order to study the impact of CSR on Cash holding and mediating impact of earning management on this relationship, quantitative research is conducted. This study aims to analyze the panel data of listed non-financial firms of the Pakistan Stock Exchange for the period from 2013 to 2022 as analyzed by previous researchers (Hasan et al., 2008; Riaz et al., 2016; Sheikh, 2019). The use of panel data analysis is also recommended as it contains more degrees of freedom and more sample variability (Kyereboah-Coleman & Biekpe, 2006). In addition, panel data analysis captures the complexity of human behaviour to a greater extent than cross-section and time-series data analysis (Hsiao, 2007). Therefore, in order to capture the mediating impact of earning management on the relationship between CSR and Cash holdings, secondary data is being used, and a quantitative method approach is employed for examining the relationship among these variables. The dataset of this study constitutes 340 non-financial PLCs, owing to their importance. All financial firms are excluded from data set because financial firms are different from non-financial firms in preparation of annual statements (La Porta et al., 2002; Matinez-Ferrero et al., 2016; Peasnell et al., 2005). The information for this study was compiled with great care from the annual financial statements of all the selected publicly listed non-financial firms on the PSX. These reports are quite helpful and accurate and give a rich account of the companies' financial health and other activities and aspects. The data collection process entailed going through each of the firms' annual report to extract the necessary financial measures, disclosures and statements that are useful for the analysis.

Out of which 449 companies are listed at PSX (Pakistan Stock Exchange) and they are categorized on the basis of financial and non-financial sectors. In the financial sector, 3 closed-end mutual funds are present, and 20 commercial bank, 9 exchange-traded funds, 23 insurance companies, 29 investment banks or companies, 22 modarabas, 3 real estate

investment trusts, making a total of 109 firms. The non-financial companies number 340. Additionally, there are 138 companies with missing data. Out of the total firms, 202 companies were selected for the analysis, which represents 59.4% of the total listed companies. The dataset used in this analysis comprises observations across 26 distinct industries. The spinning sector dominates the dataset with 400 entries, accounting for 19.8% of the total observations. The composite sector follows with 210 entries (10.4%), and the sugar and allied industry contributes 200 entries (9.9%). Other significant sectors include chemicals with 170 entries (8.42%) and cement with 140 entries (6.93%). The engineering and miscellaneous sectors are each represented by 90 entries (4.46%), while the power generation and distribution sector has 80 entries (3.96%). Several sectors, including automobile assembler, automobile parts and accessories, glass and ceramics, pharmaceuticals, food and personal care, and technology and communication, each contribute 60 entries (2.97%). Smaller contributions come from the refinery sector with 30 entries (1.49%) and synthetic and rayon with 40 entries (1.98%). Fertilizers and weaving sectors each have 50 entries (2.48%), while paper and board, tobacco, transport, and vanaspati and allied industries each account for 20 entries (0.99%). The least represented sectors are cable and electrical goods, leather and tanneries, and woolen, each with 10 entries (0.5%). This diverse dataset offers a comprehensive overview of various industries, allowing for a robust analysis of the variables under study.

Cash holdings, as studied in previous literature (Han & Qiu, 2007; Dudley & Zhang, 2016; Florackis & Sainani, 2018), serve as the dependent variable, while CSR is the main independent variable. CSR seeks to ensure that stakeholders are met and that society benefits, one way being through monetary outlay on items such as donations to the needy, employee benefits, and research. EM, as a mediator, entails the practice of influencing the figures in the financial statements to meet certain figures, and prior studies have used the modified Helay (1985) model (Dechow et al., 1995; Alves, 2011). The control variables in this study are leverage (LEV), tangibility (TANG), growth opportunities (GROWTH), and profitability (PROFIT). LEV, the extent of debt usage, generally has an inverse relationship with cash holdings, as trade-off and pecking order theories suggest (Cheryta et al., 2018; Minh et al., 2022). TANG, which refers to extent of capital expenditures, also affects cash holdings, with theories proposing that increased capital intensity leads to firms' accumulation of cash to mitigate financial distress (Aftab et al., 2018; Guizani, 2017; Kuan et al., 2012). Significant opportunities such as sales growth have a direct relationship with cash holdings since firms need to make inventory and investment to take advantage of new opportunities. Cash holding also shows a positive correlation with PROFIT based on the trade-off theory, the pecking order theory and different scholars (Nguyen, 2005; Opler et al., 2009; Ajao et al., 2012; Megginson & Wei, 2012; Ali & Yousaf, 2013; Mugumisi & Mawanz, 2014; Chauhan et al., 2018).

This study employs various quantitative methods to enhance the reliability and accuracy of its analysis. Winsorization at the 1st and 99th percentiles is applied to manage outliers, stabilizing statistical calculations (Wilcox, 2012). Descriptive statistics are calculated to understand data distribution, while correlation analysis helps establish relationships between variables and guide regression analysis, avoiding multicollinearity (Schober, Boer & Schwarte, 2018). Unit root tests ensure data stationarity, and the Breusch-Pagan lagrange multiplier (BPLM) test checks for heteroscedasticity to validate the regression model (Greene, 2018). The Wooldridge test confirms the independence of residuals, crucial for

panel data analysis (Wooldridge, 2002). Panel data regression is employed, with the Chow, BPLM, and Hausman tests used to select the appropriate models, ensuring accurate and consistent parameter estimates (Chow, 1960; Wooldridge, 2010; Greene, 2012). Robust and clustered standard errors address heteroscedasticity and autocorrelation (White, 1980; Cameron & Miller, 2015). Sobel test, Arorian Test and Goodman test are used for mediation analysis between CSR, EM and cash holdings.

4. Empirical Findings

4.1. Preliminary Findings

As per data corporate firms in Pakistan holds average of 3.5% of their total assets in shape of liquidity or cash, with massive variation, ranging from 0% to 32.7%, reflecting inconsistent liquidity strategies. CSR spending averages 7.4% of earnings after tax, but varies widely, with some firms even reporting CSR-related losses. Negative accruals are common, with a mean of -8.4%, indicating conservative accounting practices. Debt financing averages 15.1% of total assets, but ranges from 0% to 78.3%, highlighting different leverage strategies. Net income averages 3.6% of total assets, but varies significantly, from losses of -35.2% to profits of 38.1%. Firms allocate 14.4% of assets to capital expenditures, with wide variability, and experience a negligible average sales growth of 0.1%, with extremes ranging from -97.2% to 157.8%, reflecting diverse market conditions.

Table 1.1: Full Sample Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
CASH	0.035	0.059	0.000	0.327
CSR	0.074	0.335	-0.528	2.676
EM	-0.084	0.334	-0.839	1.367
LEV	0.151	0.162	0.000	0.783
PROFIT	0.036	0.104	-0.352	0.381
SIZE	22.171	1.498	18.089	26.141
TANG	0.144	0.276	0.000	1.752
GROWTH	0.001	0.375	-0.972	1.578

The correlation table shows that CASH is positively correlated with PROFIT (0.265***) and SIZE (0.086***), suggesting that firms with higher profitability and larger size tend to hold more cash. Conversely, CASH is negatively correlated with EM (-0.253***) and LEV (-0.223***), indicating that firms with higher EM and leverage tend to hold less cash. The correlations between CASH and other variables like CSR, TANG, and GROWTH are weaker. Overall, the correlations are moderate, suggesting that multicollinearity is unlikely to be a significant issue in this analysis.

Table 1.2: Correlation Matrix

Variables	1	2	3	4	5	6	7	8
(1) CASH	1							
(2) CSR	0.049**	1						
(3) EM	0.253***	0.047**	1					
(4) LEV	0.223***	-0.018	0.395***	1				

(5) ROA	0.265***	0.021	0.326***	0.198***	1		
(6) SIZE	0.086***	0.046**	-0.052**	0.024	0.190***	1	
(7) TANG	0.019	0.054**	0.143***	0.058***	0.032	0.128***	1
(8) GROWTH	0.006	-0.017	-0.005	0.087***	0.142***	0.137***	0.032 1

The Harris-Tzavalis (HT) test for unit root results reveal that all key variables are stationary. The highly negative z-statistics and probability values of 0.0000 indicate the rejection of the null hypothesis of a unit root, confirming stationarity. These results suggest that these variables are stable over time and suitable for further econometric analysis.

Table1.3: Unit Root Test

	Harris- Tzavalis	
	z stat	probability value
CASH	-24.5229	0.0000
CSR	-38.097	0.0000
EM	-6.366	0.0000
LEV	-12.7505	0.0000
PROFIT	-27.6101	0.0000
SIZE	-13.5525	0.0000
TANG	-13.9037	0.0000
GROWTH	-38.9155	0.0000

4.1. Impact of CSR on CASH

The impact of CSR on cash holdings is analyzed using multiple regression models, including POLS, FE, and RE models. The BP test confirms significant heteroscedasticity ($\chi^2 = 446.21$, $p = 0.0000$), and the Wooldridge test indicates serial correlation ($F = 29.350$, $p = 0.0000$). Due to the presence of heteroscedasticity and serial correlation, robust and clustered standard errors are included in the models. The Chow test favors the FE model ($F = 11.54$, $p = 0.0000$), and the Hausman test supports the FE model over the RE model ($\chi^2 = 29.29$, $p = 0.0148$). In OLS models, CSR is positively associated with cash holdings ($\beta = 0.00718$, $p < 0.10$), but this relationship is not significant in FE and RE models, suggesting the OLS results may be confounded by unobserved factors. Firm size shows a positive relationship with cash in OLS models, but this effect disappears in FE and RE models. Leverage consistently shows a strong negative impact on cash holdings across all models, while profitability is positively associated with cash. Growth opportunities and tangibility show no consistent effect on cash holdings. Overall, leverage and profitability are the most stable determinants of cash holdings. The positive association between CSR and cash in POLS models is not robust when controlling for fixed or random effects, highlighting the importance of model specification in analyzing cash holdings.

Table 2: Impact of CSR on Cash Holding

VARIABLES	(1) CASH	(2) CASH	(3) CASH	(4) CASH	(5) CASH	(6) CASH
CSR	0.00718*	0.00718	-0.00480	-0.00480	-0.00330	-0.00330

	(0.00374)	(0.00716)	(0.00296)	(0.00363)	(0.00294)	(0.00366)
SIZE	0.00189**	0.00189	-0.00463	-0.00463	0.000729	0.000729
	(0.000865)	(0.00212)	(0.00322)	(0.00591)	(0.00170)	(0.00213)
LEV	-	-	-	-	-	-
	0.0718***	0.0718***	0.0387***	0.0387***	0.0449***	0.0449***
	(0.00840)	(0.0158)	(0.00863)	(0.0114)	(0.00823)	(0.0111)
GROWTH	-0.00392	-0.00392	0.000925	0.000925	-0.000105	-0.000105
	(0.00352)	(0.00352)	(0.00255)	(0.00263)	(0.00255)	(0.00262)
TANG	0.00191	0.00191	-	-0.00981*	-0.00629	-0.00629
			0.00981**			
	(0.00460)	(0.00798)	(0.00485)	(0.00570)	(0.00458)	(0.00517)
PROFIT	0.125***	0.125***	0.0654***	0.0654***	0.0794***	0.0794***
	(0.0126)	(0.0261)	(0.0127)	(0.0214)	(0.0121)	(0.0192)
Constant	-0.00158	-0.00158	0.141**	0.141	0.0231	0.0231
	(0.0195)	(0.0459)	(0.0711)	(0.130)	(0.0377)	(0.0457)
Model Type	OLS	OLS	FE	FE	RE	RE
Robust & Clustered	No	Yes	No	Yes	No	Yes
R-squared	0.108	0.108	0.036	0.036		

4.2. Impact of CSR on EM

The analysis evaluates the impact of CSR on EM using various regression models, including POLS, FE, and RE. Tests indicate significant heteroscedasticity (BP test: $\chi^2 = 91.93$, $p = 0.0000$) and serial correlation (Wooldridge test: $F = 101.473$, $p = 0.0000$), necessitating the use of robust and clustered standard errors. The Chow test favors the FE model ($F = 11.06$, $p = 0.0000$), and the Hausman test confirms its appropriateness over the RE model ($\chi^2 = 176.24$, $p = 0.0000$). In OLS models, CSR shows a negative but insignificant coefficient (-0.0218), suggesting no significant impact on EM. SIZE and LEV are significant, with LEV having a strong positive effect on EM, while PROFIT negatively influences EM. In FE models, CSR turns positive but remains insignificant, with SIZE becoming significantly negative, and LEV remains positively significant. The RE models yield similar results, with CSR still insignificant, SIZE negatively significant, and LEV positively significant. Overall, CSR does not significantly impact EM across all models. Leverage consistently shows a strong positive relationship with EM, while firm size has a significant negative impact in FE and RE models. Growth and tangibility show weak or no significance, and profitability is negatively significant in OLS but not consistently in other models.

Table 3: Impact of CSR on EM

VARIABLES	(1) EM	(2) EM	(3) EM	(4) EM	(5) EM	(6) EM
CSR	-0.0218	-0.0218	0.0208	0.0208	0.0147	0.0147
	(0.0194)	(0.0162)	(0.0156)	(0.0171)	(0.0157)	(0.0155)
SIZE	-0.00606	-0.00606	-	-	-	-
	(0.00449)	(0.0122)	0.0838***	0.0838**	0.0296***	0.0296**
			(0.0169)	(0.0386)	(0.00841)	(0.0143)

LEV	0.609*** (0.0436)	0.609*** (0.143)	0.546*** (0.0453)	0.546*** (0.116)	0.581*** (0.0436)	0.581*** (0.118)
GROWTH	-0.0151 (0.0183)	-0.0151 (0.0192)	-0.0218 (0.0134)	-0.0218 (0.0141)	-0.0231* (0.0136)	-0.0231 (0.0144)
TANG	- 0.131*** (0.0239)	- 0.131*** (0.0458)	0.0219 (0.0255)	0.0219 (0.0467)	-0.00558 (0.0243)	-0.00558 (0.0401)
PROFIT	- 0.815*** (0.0656)	- 0.815*** (0.180)	0.0485 (0.0667)	0.0485 (0.147)	-0.115* (0.0641)	-0.115 (0.146)
Constant	0.0339 (0.101)	0.0339 (0.276)	1.695*** (0.373)	1.695** (0.848)	0.510*** (0.187)	0.510 (0.317)
Model Type	OLS	OLS	FE	FE	RE	RE
Robust & Clustered	No	Yes	No	Yes	No	Yes
R-squared	0.249	0.249	0.223	0.223		

4.3. Impact of EM on CASH

The BP test for heteroscedasticity yields a chi-squared statistic of 462.58 with a p-value of 0.0000, indicating significant heteroscedasticity in the model. The Wooldridge test for serial correlation produces an F-statistic of 28.932 with a p-value of 0.0000, confirming the presence of serial correlation. The Chow test comparing the POLS model with the FE model returns an F-statistic of 11.37 and a p-value of less than 0.0000, favoring the FE model. The BPLM test, with a chi-bar-squared statistic of 2275.60 and a p-value of 0.0000, supports the RE model over the POLS model. Regression models show that EM has a consistent negative impact on cash holdings, with coefficients ranging from -0.0197 to -0.0268. LEV also negatively affects cash holdings, while PROFIT has a positive impact. SIZE and TANG show variable effects, and GROWTH are not significant. The results underscore the importance of EM, LEV, and PROFIT in determining cash holdings.

Table 4: Impact of EM on CASH

VARIABLES	CASH	CASH	CASH	CASH	CASH	CASH
EM	- 0.0268*** (0.00426)	- 0.0268*** (0.00756)	- 0.0197*** (0.00446)	- 0.0197*** (0.00681)	- 0.0212*** (0.00419)	- 0.0212*** (0.00629)
SIZE	0.00181** (0.000857)	0.00181 (0.00216)	-0.00627* (0.00323)	-0.00627 (0.00613)	-3.77e-05 (0.00171)	-3.77e-05 (0.00212)
LEV	- 0.0554*** (0.00872)	- 0.0554*** (0.0153)	- 0.0284*** (0.00893)	- 0.0284*** (0.0105)	- 0.0328*** (0.00853)	- 0.0328*** (0.0102)
GROWTH	-0.00441 (0.00349)	-0.00441 (0.00349)	0.000549 (0.00254)	0.000549 (0.00263)	-0.000547 (0.00253)	-0.000547 (0.00262)
TANG	-0.00113	-0.00113	- 0.00960**	-0.00960* 0.00960**	-0.00648	-0.00648

	(0.00459)	(0.00765)	(0.00483)	(0.00541)	(0.00455)	(0.00485)
PROFIT	0.103***	0.103***	0.0663***	0.0663***	0.0774***	0.0774***
	(0.0130)	(0.0260)	(0.0126)	(0.0213)	(0.0120)	(0.0190)
Constant	-0.00215	-0.00215	0.174**	0.174	0.0368	0.0368
	(0.0193)	(0.0465)	(0.0711)	(0.134)	(0.0378)	(0.0457)
Model Type	OLS	OLS	FE	FE	RE	RE
Robust & Clustered	No	Yes	No	Yes	No	Yes
R-squared	0.123	0.123	0.045	0.045		

4.4. Impact of CSR and EM on CASH

The BP test yields a chi-squared statistic of 459.63 with a p-value of 0.0000, indicating significant heteroscedasticity in the model. The Wooldridge test for serial correlation produces an F-statistic of 28.836 with a p-value of 0.0000, confirming the presence of first-order serial correlation, which can result in inefficient estimators and biased standard errors. The Chow test comparing the POLS model with the FE model returns an F-statistic of 11.36 with a p-value of 0.0000, leading to the rejection of the POLS model in favor of the FE model, which better accounts for unobserved heterogeneities. The Breusch-Pagan Lagrange Multiplier test supports the RE model over the POLS model, with a chi-bar-squared statistic of 2242.01 and a p-value of 0.0000, indicating that the RE model provides more efficient and consistent estimates. The Hausman test, with a chi-squared statistic of 19.10 and a p-value of 0.2637, suggests that the RE model is preferred due to its efficiency gains, assuming the assumption of uncorrelated individual effects holds. The regression analysis shows that CSR has a positive and significant effect on cash holdings in the POLS models but loses significance in the FE and RE models, indicating that the relationship may be driven by cross-sectional differences. EM consistently shows a negative and significant impact on cash holdings across all models. Firm size has a positive effect in the OLS models but turns negative in the FE models, while leverage consistently shows a negative relationship with cash holdings. Profitability is consistently positive and significant, indicating that more profitable firms hold more cash. The results highlight the negative impact of EM and the positive effects of profitability on cash holdings, with varying effects for CSR, size, and leverage.

Table 5: Impact of CSR and EM on CASH

VARIABLES	CASH	CASH	CASH	CASH	CASH	CASH
CSR	0.00660*	0.00660	-0.00439	-0.00439	-0.00297	-0.00297
	(0.00371)	(0.00697)	(0.00295)	(0.00350)	(0.00292)	(0.00356)
EM	-	-	-	-	-	-
	0.0266***	0.0266***	0.0195***	0.0195***	0.0212***	0.0212***
	(0.00426)	(0.00750)	(0.00446)	(0.00680)	(0.00420)	(0.00629)
SIZE	0.00173**	0.00173	-0.00626*	-0.00626	2.73e-05	2.73e-05
	(0.000858)	(0.00211)	(0.00323)	(0.00608)	(0.00170)	(0.00211)
LEV	-	-	-	-	-	-
	0.0557***	0.0557***	0.0281***	0.0281***	0.0327***	0.0327***
	(0.00871)	(0.0152)	(0.00892)	(0.0105)	(0.00853)	(0.0102)
GROWTH	-0.00432	-0.00432	0.000500	0.000500	-0.000598	-0.000598

	(0.00348)	(0.00350)	(0.00254)	(0.00263)	(0.00253)	(0.00263)
TANG	-0.00156	-0.00156	-0.00938*	-0.00938*	-0.00628	-0.00628
	(0.00459)	(0.00750)	(0.00483)	(0.00539)	(0.00455)	(0.00485)
PROFIT	0.103***	0.103***	0.0663***	0.0663***	0.0776***	0.0776***
	(0.0130)	(0.0260)	(0.0126)	(0.0213)	(0.0120)	(0.0190)
Constant	-0.000676	-0.000676	0.174**	0.174	0.0355	0.0355
	(0.0193)	(0.0457)	(0.0711)	(0.133)	(0.0376)	(0.0454)
Model Type	OLS	OLS	FE	FE	RE	RE
Robust & Clustered	No	Yes	No	Yes	No	Yes
R-squared	0.125	0.125	0.047	0.047		

4.5. Mediation of EM between CSR and CASH

The mediation analysis of EM between CSR and Cash Holdings (CASH) using OLS, FE, and RE models reveals that CSR does not have a statistically significant direct impact on CASH across all estimation techniques. The coefficients for CSR on CASH are 0.00718, -0.00480, and -0.00330 for OLS, FE, and RE, respectively, with standard errors exceeding the coefficients. The relationship between CSR and EM is also not significant, with mixed results across the models. However, EM consistently shows a significant negative effect on CASH, with coefficients of -0.0268 (OLS), -0.0197 (FE), and -0.0212 (RE), all significant at the 1% level. This suggests that higher levels of EM are associated with lower cash holdings. The indirect effect of CSR on cash holdings through mediation of EM shows the significant in OLS model, but mediation is not clear in other models. In conclusion, CSR there is no direct influence is observed between CSR and cash holdings. However, significant mediation of EM is seen in the relationship between CSR and cash.

Table 6: Mediation of EM between CSR and CASH

	OLS	FE	RE
CSR → CASH	0.00718 (0.00716)	-0.00480 (0.00363)	-0.00330 (0.00366)
CSR → EM	-0.0218 (0.0162)	0.0208 (0.0171)	0.0147 (0.0155)
EM → CASH	-0.0268*** (0.00756)	-0.0197*** (0.00681)	-0.0212*** (0.00629)
[CSR & EM] → CASH	0.00660 (0.00697)	-0.00439 (0.00350)	-0.00297 (0.00356)
	-0.0266*** (0.00750)	-0.0195*** (0.00680)	-0.0212*** (0.00629)
Sobel Test	1.258 (0.000464)	-1.121 (0.000365)	-0.913 (0.000341)
Aroian Test	1.217 (0.00048)	-1.068 (0.000383)	-0.878 (0.000355)
Goodman Test	1.304 (0.000448)	-1.183 (0.000346)	-0.953 (0.000327)

5. Discussion and Conclusion

The results of the study on the effects of CSR on corporate cash holdings and the link with EM portray a complex perspective of CSR practices in emerging economies such as

Pakistan. This is in agreement with previous studies that posit that CSR activities in such a setting may be more of PR stunts than well thought out and integrated business strategies (Arora & Dharwadkar, 2011). In the emerging markets, CSR initiatives are often a response to the pressure from stakeholders and legal compliance than being a strategic decision (Jamali & Karam, 2018). In Pakistan CSR may be seen as more of a 'window dressing' to boost the image of a company rather than as a strategic business approach. This perception can mean that CSR initiatives do not have much effect on the financial policy such as cash holdings because they are not well coordinated with the financial management systems. Therefore, the insignificant relationship between CSR and cash holdings in Pakistani firms indicates this misfit and a limited integration of CSR with the financial strategy. Likewise, the result of the regression analysis shows that the effect of CSR on EM is not statistically significant.

The further analysis of the relationship between EM and cash holdings ($\beta = 0.0197$) also has a negative sign which is also informative. The firms that are involved in EM may exhaust their cash balances to manipulate the earnings or to portray a picture of financial strength as has been seen in other situations (Kothari, Leone & Wasley, 2005). This behaviour show that firms adopt a short-term perspective where they focus on meeting market or internal targets and enhancing their short-term financial performance at the expense of their long-term financial health (Graham, Harvey & Rajgopal, 2005). The use of cash reserves to manage earnings through the depletion of cash reserves is a counterproductive approach that can be hazardous to the future of the company.

In addition, the non-significant mediation effect of EM between CSR and cash holdings in the study implies that the CSR practices do not have a direct impact on cash holdings through EM in Pakistani firms. This result suggests that CSR and financial management are not well coordinated in these firms, which may explain why CSR has a weak impact on cash holdings (Margolis & Walsh, 2003). The non-significance of the mediation effect raises the question of the link between CSR and financial management in Pakistani firms, which is in line with the argument that CSR may not have been fully institutionalized in the strategic and financial management systems of these firms. In general, these results highlight the importance of a more deliberate approach to CSR in EMs, and that CSR activities should be aligned with the overall business strategy and financial management practices to impact financial performance, including cash holdings.

The weak relationship between CSR and cash holdings in this study contradicts findings from developed markets, where CSR is often linked to reduced cash holdings due to enhanced transparency and reduced information asymmetry (Lu et al., 2017). In developed economies, CSR activities are generally viewed as strategic initiatives that improve access to external financing and reduce the need for large cash reserves. However, in developing markets such as Pakistan, the findings align with studies like that of Arora & Dharwadkar (2011), which suggest that CSR activities in such markets are often reactive and lack integration into core business strategies. While the study found no significant impact of CSR on EM, prior research has presented mixed results. For instance, Cohen et al. (2007) argue that CSR can be a tool to reduce EM by improving transparency and corporate governance. However, other studies, such as by Baatour et al. (2017), suggest that firms with high CSR involvement can also engage in EM to maintain their reputation, aligning with the notion that CSR can sometimes be used as a "window dressing" to obscure earnings manipulation. The negative relationship between EM and cash holdings aligns with the pecking order theory, where firms deplete cash reserves for

short-term gains, compromising long-term stability. This finding is consistent with the work of Jensen (1986) and Kothari et al. (2005), who argue that firms engaging in EM may drain cash reserves to artificially inflate financial performance in the short term.

The study provides significant theoretical implications for the relationship between CSR, earnings management (EM), and cash holdings in the context of non-financial firms in Pakistan. It highlights that CSR, which is often seen as enhancing transparency and reducing agency conflicts, does not significantly influence EM or cash holdings in this setting, suggesting a misalignment between CSR and financial strategies in emerging markets like Pakistan. This challenges established theories such as Agency Theory and Legitimacy Theory, indicating that CSR in such markets may be more of a public relations exercise than a strategic financial tool. The negative relationship between EM and cash holdings supports the Pecking Order Theory, showing that firms engaging in earnings manipulation may deplete cash reserves, compromising long-term financial health. Additionally, the study finds no significant moderating role of EM between CSR and cash holdings, implying that CSR practices are not yet fully integrated into financial management frameworks in Pakistan. These findings underscore the need for theoretical models to be adapted to the unique governance and regulatory environments of emerging markets, calling for future research to refine these theories to better suit such contexts.

The research suggests that corporate social responsibility (CSR) activities do not significantly influence cash holdings directly, indicating that in Pakistani firms, CSR is often not well-integrated with financial strategy. This implies that firms should adopt a more strategic approach to CSR by aligning it with their long-term financial goals to enhance firm value and ensure sustainable operations. CSR practices can mitigate agency conflicts and information asymmetry, but their impact on earnings management (EM) was found to be insignificant. Therefore, firms should focus on strengthening governance practices, such as board oversight and audit functions, to improve financial reporting and reduce the risk of earnings manipulation. Earnings management (EM) has a significant negative impact on cash holdings. This suggests that firms engaging in EM might deplete cash reserves to achieve short-term financial reporting targets, which could harm long-term financial health. Executives should prioritize long-term financial stability over short-term performance targets, ensuring that cash reserves are managed prudently. CSR activities, if executed well, can enhance a company's reputation and reduce borrowing costs by building trust with external stakeholders. Firms should view CSR not only as a moral obligation but as a strategic tool to improve financial outcomes by enhancing relationships with lenders and investors. Policymakers should develop frameworks that incentivize firms to integrate CSR into their core financial strategies. This could include mandatory reporting of CSR activities in financial disclosures, which could improve transparency and ensure that CSR initiatives are not merely for public relations but are aligned with financial performance. Since the study focuses on non-financial firms, further research and sector-specific policies are necessary. Different sectors may have unique CSR and financial management dynamics, so industry-specific strategies are essential for maximizing the benefits of CSR in terms of cash holdings and earnings management. Companies should be encouraged to view CSR as a long-term investment rather than a short-term expenditure. Long-term CSR initiatives, aligned with the company's financial goals, can enhance sustainability, reduce risk, and improve the overall financial stability of the company.

Further research could be conducted on this study to improve the knowledge of corporate

governance and financial management in Pakistan through focusing on the following areas. First, the analysis could be conducted over a longer period than just the 2013-2022 period to look at the long term trends and changes in governance practices and financial behaviours that can be observed over different economic cycles. Second, the study could be extended to include other industries than the non-financial companies thereby providing a comparison of the governance and financial management systems across sectors. Researches comparing the findings from different industries in Pakistan may help in understanding how the characteristics of sectors affect governance and financial performance. Furthermore, the future research may examine the effects of technological changes on the corporate governance. Analyzing the impact of digital governance tools and big data analytics on the financial management and governance may reveal some new trends. However, it is also possible to use case studies or interviews to gather qualitative data which may help to improve the understanding of the context in which corporate governance is practiced in Pakistan. Lastly, to enhance the reliability of the conclusions, future works could employ different econometric methods and perform the sensitivity analysis to check the outcomes' sensitivity. This would assist in overcoming the problem of only using quantitative data and thus improve the quality of the research. Thus, the further research in these areas could help to get a better understanding of the corporate governance and financial management in Pakistan and, therefore, to improve the policy and managerial decisions.

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