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Impact of Cash Holdings on Firm Performance: The Moderating Role of Board Independence

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ABSTRACT

The debate on the need for cash holdings for firms has increased in recent years. This research aims to determine the effect of cash holdings on the performance of the commercial banking sector of Pakistan, with the moderating role of board independence. The sample of this study consists of 16 commercial banks, considering the period of 13 years from 2012 to 2024. Financial leverage, bank's growth, and bank's size, as control variables, are included in the study to remove bias. Cash holding is assessed by the ratio of cash and cash equivalents to total assets, and the proxy of firm performance is return on assets. The model is studied by employing the pooled regression model, fixed effects model, random effects model, and Hausman's specification test. Findings of the study show that cash holding is positively related to the performance of commercial banks. Accordingly, bank size and bank growth also have a positive impact on the performance. Financial leverage is negatively related to return on assets. The analysis of the model shows that the relationship between cash holding and performance strengthens under the moderating role of board independence. The study recommends that banks should effectively maintain an appropriate level of cash, keeping in mind the investment and growth opportunities.

1. Introduction

The cash-holding behavior of corporations has received considerable attention in the field of finance in recent years [1]. Firms' cash management decisions have been widely studied in the literature [2,3]. Firms need to stockpile cash for precautionary purposes, to finance business operations, and to take advantage of investment opportunities. Cash holdings allow a firm the flexibility to allocate funds [4].

During the last two decades, firms have increased their cash reserves [5]. It has also been observed that USA-based firms have increased their cash holdings by 5% from 1990 to 2003. In 2003, cash holdings of US-based firms contributed to 10 percent of US GDP [6]. A study noted that cash accounted for a major portion of a company's assets, increasing from 8% in 1996 to 12% in 2005

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among South East Asian firms [7]. Whereas, another study by Ferreira & Vilela [8] revealed that European firms holded 15% of their assets as cash.

Holding high cash is not always beneficial for firms, but it can sometimes harm them. High cash reserves help fulfill business needs and seize investment opportunities [9]. However, excess cash can restrict investments in long-term projects, reducing potential returns. Therefore, companies must determine the right cash level to allocate funds properly and stay profitable [10]. The implications concerning cash holding have not yet been completely understood as to the appropriate level of cash for firms to ensure stable performance of operations and to earn adequate earnings [11,12]. Several theories, such as the trade-off, pecking order, and cash flow theories, address the reasons for holding cash. These theories offer conflicting views on firms' cash holding decisions [13].

It is evident that benefit derive from the cash holding depend on the board of directors and the governance mechanism of the firm. The board decides the cash level to be retained by the corporation during a specific period [14]. A large amount of cash holdings can be derived from the interest of the firm’s manager and majority shareholders. Managers may want large cash holdings to benefit themselves at the expense of shareholders, so the negative impact of cash holdings on firm performance is justified [15]. Independent directors can reduce the agency problem and create a positive firm value [16]. However, in developing countries, non-executive independent directors are ineffective in improving the performance of the organization owing to the poor governance mechanisms and reporting standards in these countries [17].

Although previous research has studied cash holding extensively, they have studied it in various contexts, not specifically from the perspective of financial performance. There is a paucity of literature that has examined the effect of cash holdings on firm performance. Earlier studies have not deeply explored the role of board independence in influencing cash management decisions [15]. Moreover, studies have investigated the impact of cash holding on the performance of the manufacturing sector [12]. This subject needs to be examined in the financial sector of Pakistan as well, because the financial sector plays an important role in the economy of a country.

A stable financial system can contribute to the country’s economic growth as it transmits money between the unproductive and productive segments of the economy [18]. Stability of the banking system depends upon the microenvironment, and its profitability is an essential driver of firm growth [19]. It is a standard regulatory requirement by the central bank, which requires commercial banks to hold a specified proportion of cash reserves. Liquidity can be an indicator of a bank’s performance because maintenance of an adequate amount of liquidity enables banks to effectively manage customer needs [20,21].

The objective of this study is to examine the effect of cash holdings on the firm performance of the commercial banking sector of Pakistan. This research is distinguished because it has filled the theoretical and contextual gap of the earlier studies by examining the moderating role of independent directors between cash holdings and firm performance. As there is a scarcity of researches which have studied the role of board independence on effecting firm operating performance in the context of cash holdings. Secondly, the research is based on the commercial banking sector of Pakistan because prior research in this field was limited to Pakistan’s manufacturing sector. This study aims to contribute to the existing body of knowledge regarding cash management and provide a better understanding of the firm's performance that ultimately contributes to economic growth.

2. Literature Review

2.1 Theoretical Review

2.1.1 Trade-off theory

According to trade-off theory [22], firms want to optimize their cash holdings, which is the result of a trade-off between the benefits and costs of cash holdings [23]. Adequate cash holding allows firms to make investments without depending on external funding during financial crises. Whereas the cost of holding cash is linked with the opportunity cost of long-term investments, as liquid assets generate lower returns [24].

2.1.2 Pecking order theory

The Pecking Order Theory by Myers & Majluf [22] holds that capital structure influences the cash holding decision of firms. According to this theory, no optimal level of cash exists, and firms hold cash to avoid dependency on external sources of funds. Firms prefer internal funding over debts and equities to lessen the issues of asymmetric information in raising external capital. Firms use to hold cash to finance their investment, pay debts, and dividends [25].

2.1.3 Cash flow theory

According to cash flow theory, management tries to hold large amounts of cash in its control, and agency cost may imply that managers can persuade sub-optimal practices [4]. These practices can lead to overinvestment problems, and firms may invest in those projects with negative NPV [26].

2.2 Empirical Review

2.2.1 Cash holdings

Cash is legal currency that is used to exchange goods, services, or debts. Assets that are easily convertible into cash or cash equivalents are considered cash holdings in firms [24]. Cash is a major asset of the firm; therefore, investment of this asset has been studied by many previous researchers [27]. Cash is often considered an asset that yields a low return as compared to long-term investments; therefore, many corporations do not hold large amounts of cash [28]. At the same time, firms need high cash holdings due to uncertain economic situations when external funding is not accessible. Firms need to maintain liquidity to meet various needs such as transaction, precautionary, and speculative needs. The debate on the optimal level of cash holding has continued for several years [26]. Growing firms need greater cash holdings to avoid the hindrance of access to external funding. The rising cost of external debts forces firms to utilize the company's own internal funds [29]. Firms with high cash holdings do not rely on external funding and are not constrained by external capital, so they can take advantage of market opportunities more quickly than firms with low cash holdings. They are more flexible in availing the investment opportunities [25].

2.2.2 Firm performance

Performance is the measurement of the efficiency and effectiveness of the operations of the firm. The performance of companies can be measured by various financial ratios that are evaluated by investors for making investment decisions in the company [30]. It is obvious that a firm's performance is depicted by corporate governance functions. Good corporate governance meets financial challenges and captivates investors that can boost the company's [31]. Return on assets (ROA) and return on equity are the most widely used financial ratios to measure firm performance. ROA shows how much a firm is efficient in generating income from its assets [32].

2.2.3 Corporate governance

Corporate governance plays a significant role in the efficient utilization of firms' assets. It is recognized that a rise in cash holdings is linked with corporate board effectiveness. Developing countries face more agency problems than developed markets, but independent directors can mitigate such agency issues [27]. The corporate CEO has discretionary power to control the cash holdings, and he can create incentives for management to raise the firm's cash holdings. If there is an agency problem between the board and minority shareholders, then free cash flow may increase [33,34].

2.2.4 Board independence

Corporate governance plays a significant role in the efficient utilization of a firm's assets [35]. It is recognized that a rise in cash holdings is linked with corporate board effectiveness. Developing countries face more agency problems than developed markets, but independent directors can mitigate such agency issues [27]. The corporate CEO has discretionary power to control the cash holdings, and he can create incentives for management to raise the firm's cash holdings. If there is an agency problem between the board and minority shareholder, than is free cash flow may increase [33]. The board of directors is accountable for the company's governance. The presence of independent directors on the board can strengthen governance mechanisms as they are experts in their field. A high percentage of independent directors on the board sought to reduce the agency cost [36]. Board independence refers to the directors who are separated from the CEO and chairman positions [7].

2.2.5 Cash holdings and firm performance

Cash holding is the key factor that affects the profitability of firms [37]. High cash holdings facilitate firms to benefit from investment opportunities, meet business operating needs, and protect themselves from financial crises [38]. Various researchers have studied the effect of cash holdings on firm performance, but the results are contradictory [39,40]. An empirical study based on the Colombo Stock Exchange shows a positive relation between cash holdings and firm performance [23].

Ahmed & Tahir [34] found that cash holding is positively related to the financial performance of firms listed on the Karachi Stock Exchange (KSE). Hussain *et al.* [41] predicted a positive effect of cash holdings on firm performance. Another study highlighted the role of cash reserves for the performance of large Italian corporations and depicted a positive association. Various factors, such as an underdeveloped stock market and lower investor protection, jointly shape this relationship [15]. It is also evident that cash holding and firm value portray a concave relation. It verifies that there is an optimal value for cash holding. Too high liquidity may be harmful for the firm, as going up and down from the optimal level reduces firm value [4,42].

A study based on firms listed on the Ghana stock exchange revealed a negative impact of cash holdings on firm value [43]. Corporations holding large cash reserves may lose the opportunity to invest in long-term assets that yield high returns. The optimal level of cash holding is low for firms that are financially constrained [13]. It is noticeable that firms that have more access to capital markets depend more on debt and hold less cash in their balance sheet [44]. It is also evident that firms' shareholders with low expected future growth may demand higher cash holdings. This cash is returned in the form of a dividend, instead of being invested in a profitable investment, resulting in a decline in the firm's value [45]. It is believed that management holds cash reserves to invest in profitable projects. Optimal cash level does not exist under this view; it is just the cushion between investment requirement and retained earnings [3]. The hypothesis is presented as:

H_1 – Cash holdings have a positive effect on firm performance.

2.2.6 Moderating role of board independence

Corporate boards have a significant effect on firm value by playing a role in cash holdings decisions. Firm's cash holdings are wasted if the firms are poorly governed, causing a reduction in operating performance [46]. Effective governance of the board can mitigate this negative impact by efficiently utilizing corporate assets [6]. There are various theories giving different views about the corporate governance mechanism, as the assumption of the pecking order theory holds that managers are agents and act in the best interest of the shareholders [47]. Under this theory, agency conflict is absent, and internal resources are first considered before going for external funding. On the other hand, cash flow theory assumes that agency costs arise when management does not work in the best interest of the shareholders [26]. There is a probability that management may hold a large cash reserve in view and mismanage corporate funds, that cause agency problem [48].

Agency theory, which is the most important theory of corporate governance, is based on the relationship of shareholders and the board of directors, proposed that there is a separation of control and ownership [49]. So, a disciplined environment, adequate control of the management team, and effective management of firms' assets can enhance corporate performance and ultimately maximize the shareholders' value [14,50]. Information asymmetry in organizations may lead to bad investment-related decisions and adversely affect the company's performance [51].

Agency problems may pressure cash management decisions of the management. Independent directors on the board can mitigate such conflicts. Outside directors prefer lower cash holdings for objective decision-making and have no monetary interest in the firms other than compensation [16]. Firms with a smaller board size and with a higher percentage of independent directors prefer lower cash holdings [7]. Another study on board independence predicted a positive relation between external directors and firm performance. Free cash flow is higher for the firms that have a greater number of independent directors holding positions in different board committees [52]. Family-controlled organizations with a larger proportion of independent directors hold more cash reserves for operating business needs. Board independence gives protection to the shareholders and reduces the agency problem in family-controlled firms [53].

On the other hand, board independence shows a negative effect on firm value in developing countries. The reason for this harmful impact is due to strong information asymmetries and a lack of strict reporting standards in organizations of developing countries, which makes the role of outside directors less effective [54]. Secondly, Independent directors have less control and autonomy in the organization due to an ineffective legal system in these countries [17]. A study based on Pakistani firms presented an insignificant relationship between independent directors and firm value in Pakistan. As the financial market of a country is underdeveloped, directors are unable to find short-term securities that earn good returns. Lenient corporate governance mechanisms also encourage corporate managers to waste cash asset that reduces firm performance [55]. It is observed that a higher proportion of independent directors results in a higher dividend payout ratio of the corporations. Independent directors may increase the dividend payouts to please controlling shareholders and investors [56].

A study conducted on an Indian firm analyzed that the optimal percentage of independent directors on a corporate board is 50-60% [57]. More than 60% and below 33% of outside directors on the board will reduce firm performance. Corporate boards perform the monitoring and advisory role in the firm [12]. Strategy formulation for business activities requires the collaboration of the chief executive, directors, and management. Decisions of independent directors are influenced by different members of the corporation. Shareholders may elect such friendly independent directors to encourage the chief executive to share inside information. These directors usually do not play a strict monitoring role [58]. The following hypothesis is proposed:

H_2 – The relationship between cash holding and firm performance is moderated by board independence.

2.3 Theoretical Framework

Based on the theoretical and literature review, the theoretical framework of the study is proposed in Figure 1.

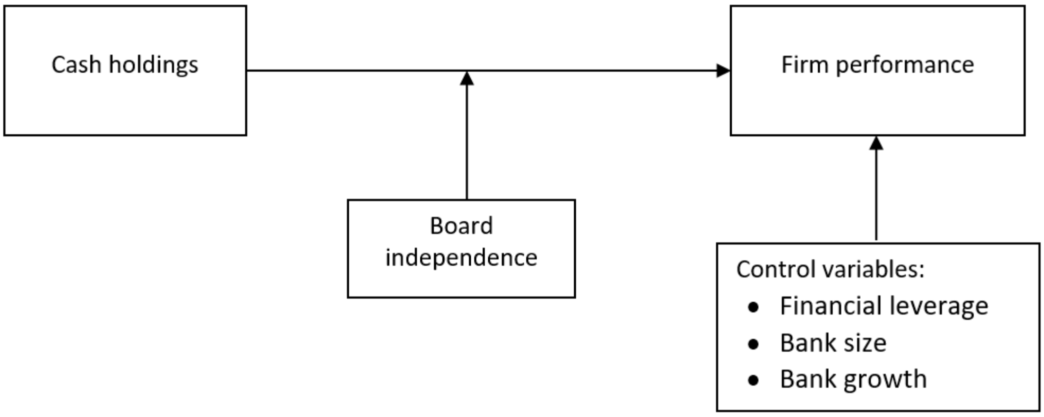

Fig. 1. Theoretical framework

3. Methodology

This research is quantitative in nature, and the research philosophy is positivist because all the variables are measurable and quantifiable. The unit of analysis of the study is the commercial banking sector of Pakistan.

3.1 Research Variables

3.1.1 Independent variable

Cash holdings (*CH*) is the dependent variable of the study. It is measured by dividing cash and cash equivalents by the total assets of the bank [23].

3.1.2 Dependent variable

Firm performance is the independent variable of the study. ROA is the proxy of firm performance. ROA is calculated as the ratio of profit after tax to the total assets of the bank [23]. ROA shows the capability of the firm to generate income from its assets.

3.1.3 Control variables

Financial leverage, bank size, and bank growth are the control variables of the study. These control variables are included in the model to decrease the omitted variable bias. Financial leverage (*LEV*) is measured by the ratio of total debt to shareholders' equity, while bank size (*SIZE*) is the log of total assets of the bank [41]. Bank growth (*BGR*) is calculated as the difference between current-year assets and previous-year assets, divided by current-year assets [13].

3.1.4 Moderator variable

Board independence (*BIND*) is the moderator variable of the study. It is measured as the ratio of the number of independent and non-executive directors to the total number of directors on the corporate board [16]. A moderator variable can strengthen or weaken the relation between the independent and dependent variables of the study. The interaction effect of board independence with cash holding is added to ascertain its effects on bank performance.

3.2 Research Model

This study used a hierarchical model, where the dependent variable is first tested for analyzing the impact of independent variable, control variables, and the moderator using Eq. (1):

$$\boldsymbol{ROA = \alpha + \beta_1 CH_{it} + \beta_2 LEV_{it} + \beta_3 SIZE_{it} + \beta_4 BGR_{it} + \beta_5 BIND_{it} + \mu_{it}} \quad (1)$$

In Eq. (2), the interaction term (*CH*BIND*) is added to test the impact of cash holding on firm performance in the presence of board independence as a moderator variable:

$$\boldsymbol{ROA = \alpha + \beta_1 CH_{it} + \beta_2 LEV_{it} + \beta_3 SIZE_{it} + \beta_4 BGR_{it} + \beta_5\, CH * BIND_{it} + \mu_{it}} \quad (2)$$

3.3 Data Collection

Secondary sources of data are used in this study to get constructive information and to accomplish the research objective. There are 30 scheduled commercial banks in Pakistan. 16 commercial banks are selected as the sample, while the time horizon of this study is 13 years, from 2012 to 2024. The sample is selected on the basis of data availability. Annual data is collected from the published financial reports of concerned banks and from the official website of the State Bank of Pakistan.

3.4 Statistical Test for Data Analysis

The study is a panel data study comprising of cross sectional and time series data. Panel data of numerous banks from the period of 2012-2024 were gathered. The data empirically investigated the relationship between cash holdings and firm performance, with the moderating variable of board independence.

Different statistical tests and regression models were applied, which include the OLS pooled regression model, fixed effects model (FEM), random effects model (REM), and Hausman's specification tests. These research techniques are best suited for panel data analysis.

Pooled regression models do not make distinctions in cross sections and time series. The heteroscedasticity problem can arise with this analysis technique. So, the FEM was applied to remove the problem of heterogeneity across groups. In FEM, the parameter for time series is fixed, while it allows heterogeneity across the intercept value for each cross-section. The REM is opposite to the FEM. Models were analyzed with the help of econometric software EViews.

In the random effect test, differences across the cross sections are supposed to be random. There is a single intercept value which in the mean of all intercept values of cross sections, and it is constant for the whole time series. Hausman's specification test is applied to determine whether the fixed effect or the REM better explains the relationship of the variables under consideration. Hypotheses for Hausman's test are formulated:

H_0 – *REM is significant in explaining the relationship between the variables*;
H_1 – *FEM is significant in explaining the relationship between the variables*.

4. Results & Discussions

4.1 Descriptive Statistics

The descriptive statistics of the variables help to understand important characteristics that provide support to the interpretation of regression results. Table 1 shows the summary statistics of the variables under consideration. There were a total of 208 observations, as the sample consists of 16 commercial banks covering a period of 13 years. Moreover, Table 1 presents different statistical figures about data such as mean, median, and standard deviation. It is also depicted that commercial banks have average cash holdings of 8.78%, while 81% of the directors are independent and non-executive directors.

Table 1
Descriptive statistics

	ROA	*CH*	*LEV*	*SIZE*	*BGR*	*BIND*
Mean	0.008319	0.087775	16.63841	8.582092	0.124407	0.810620
Median	0.00950	0.08120	12.9450	8.643471	0.1230	0.85710
Maximum	0.03980	0.17710	415.830	9.508817	0.75990	0.92310
Minimum	-0.06410	0.0340	-51.010	7.217150	-0.26430	0.3750
Std. dev.	0.013893	0.028052	37.17914	0.493971	0.099540	0.127991
Sum sq. dev.	0.039953	0.162894	286133.6	50.50950	2.051011	3.391003
Observations	208	208	208	208	208	208

4.2 Regression Results and Interpretations

Results in Table 2 show the estimates of the econometric equation of the balance panel regression line depicting coefficient values of the pool regression model, FEM, and REM. In Table 2 *, **, and *** indicate the level of significance at 1%, 5%, and 10%, while the *t* value is shown in parentheses.

Table 2
Regression results on the impact of cash holding on ROA

Variable	Pool Regression Model	Fixed Effects Model	Random Effects Model
CH	0.057783** (2.058938)	0.081788** (2.215213)	0.078473* (2.768887)
LEV	-0.000084* (-4.004616)	-0.000054* (-2.860499)	-0.000065* (-3.506287)
SIZE	0.010500* (5.994227)	0.006196*** (1.880315)	0.008890* (4.370804)
BGR	0.036370* (4.653468)	0.035645* (4.923764)	0.035545* (5.041171)
BIND	0.022644* (3.422967)	0.030103* (4.530537)	0.026284* (4.242650)
Observations	208	208	208
Adj R^2	0.3841	0.536767	0.310144
F test	26.81803	12.99298	19.61256
Prob (F Statistics)	0.000000	0.000000	0.000000
Durbin-Watson stat	0.804870	1.143104	0.973371

The results from Table 2 show that cash holdings have a significant and positive effect on ROA under all three models at 1%, 5%, and 10% level of significance. Good operating performance is the outcome of greater cash holdings. Leverage is negatively related to ROA at 1% level of significance, showing that higher dependence on debts reduces the firm's performance. Bank's size shows a positive relation with ROA at 1% level of significance according to the pool regression and REM, but at 10% level of significance in the FEM. Bank growth and board independence also have a significant positive relation with ROA. Adjusted R^2 value shows 38%, 54%, and 31% dependency of explanatory variables on the ROA. F-statistics and their probability values also show that the model is significant and a good fit for the study. Values for the Durbin-Watson are more than 0.8, which predicts that there is no autocorrelation problem in the model. It is also seen from Table 2 that R^2 and Durbin-Watson values are highest in the FEM.

Hausman's specification test determines whether the FEM or the REM better explains the phenomenon under consideration. As the probability value 0.0008 is less than 0.05, we reject the null hypothesis and accept alternate hypothesis that the FEM best explains the relationship of the variables of the study. Chi-square statistics of 21.03 also show the significance of FEM. It shows that commercial banks in Pakistan are heterogeneous in nature, and there exists a heteroscedasticity problem. This argument is also supported by the R^2 value of the FEM, showing 53% dependency of ROA on explanatory variables, which is the highest compared to other models.

4.3 Regression Results on Moderation

The econometric estimation of the regression results of Eq. (2) is shown in Table 3. It estimates the effect of cash holdings under the moderating role of board independence, indicating coefficient values and other estimations of the variables. According to the *t*-statistics and probability values, it is clear that cash holdings and bank growth have a positive and significant relationship with ROA. It shows that growing banks that hold greater cash holdings increase their profitability. Financial leverage is negatively related to firm performance at 1% level of significance. Accordingly, the size of the bank has a positive impact on ROA, but at 10% level of significance under the FEM and at 1% level of significance under POL. REM results depicted that larger banks have greater cash holdings, which enhances their operating performance. The significant result of the interaction term (i.e., *CH**BIND*) shows that board independence moderates the relationship between cash holdings and firm performance. The moderation effect is positive, indicating that the association of cash holding and ROA strengthens if the corporate board has a larger proportion of independent and non-executive directors. There is no autocorrelation problem among the variables of the study, as shown by Durbin - Watson stats. Adjusted R^2 values of 40.88%, 54.55%, and 33.23% show that cash holdings, leverage, bank's growth, and bank's size are the potential determinants of firm operating performance. F-statistics also show that the model is feasible to study.

Regarding the Hausman specification test, as the probability value is less than 0.05, the chi-square statistic of 21.91 indicates that the FEM is more effective in explaining the relationship of the study. The analysis made for the fixed effects test was also confirmed by this specification test. In light of Hausman's specification test, it is clear that commercial banks in Pakistan possessed heterogeneity.

4.4 Discussion on Hypothesis

Cash holding is an important variable that can affect the performance of commercial banks. The result of this study shows that an increase in cash holdings can boost firm performance measured by ROA. This is in accordance with previous research [24,59,60], which indicated a positive relationship between cash holdings and firm performance. So we accept our hypothesis H_1 that cash holdings have a positive effect on firm performance. This relationship reflects the behavior of commercial banks in Pakistan to hold greater cash levels to avoid any cash shortages and pay their obligations on time, which improves the banks' profitability.

Table 3
Regression results on the role of board independence as a moderator between cash holdings and ROA

Variable	Pool Regression Model	Fixed Effects Model	Random Effects Model
CH	0.783351* (3.298056)	0.582641** (2.463797)	0.676354* (3.015837)
LEV	-0.000072* (-3.410391)	-0.000045** (-2.426278)	-0.000057* (-3.003184)
SIZE	0.010694* (6.227285)	0.005787*** (1.7679745)	0.009070* (4.574792)
BGR	0.035047* (4.570012)	0.035495* (4.949830)	0.034986* (5.014713)
BIND	0.089435* (3.946136)	0.076728* (3.376587)	0.081161* (3.800062)
*CH*BIND*	0.882481* (3.075453)	0.618349** (2.143732)	0.730991* (2.690076)
Observations	208	208	208
Adj R^2	0.408847	0.545506	0.332326
F test	24.86056	12.83104	18.17190
Prob (F Statistics)	0.000000	0.000000	0.000000
Durbin-Watson stat	0.830265	1.168470	0.991838

By analyzing the control variables, it is observed that bank size has a positive impact on ROA as large banks benefit from economies of scale and hold larger cash reserves. Negative value of financial leverage suggests that high debt is harmful for the banks as banks have to pay a larger amount in the form of interest, which reduces the profitability. These findings are consistent with previous studies [23,61]. Accordingly, the growth of firms has a positive effect on firm performance as banks try to accumulate larger cash reserves to support their business growth. Larger cash holdings ensure flexibility to avail growth opportunities without being subject to financial constraints. This finding is consistent with [15]. The moderating role of board independence between cash holdings and firm performance is positive, showing that independent non-executive directors are effective in enhancing firm performance with the help of cash holdings. It is in accordance with the findings of [17]. So, Hypothesis H_2 is accepted that board independence moderates the relationship between cash holdings and firm performance. This suggests that a higher proportion of independent directors improves firm performance with a sufficient monitoring role. Independent directors utilize excess cash more efficiently, which improves the profitability of the firm. Independent and non-executive directors on the board serve a monitoring role that helps firms to reduce managerial opportunism and agency problems. As a result, funds are allocated towards profitable investments that help firms earn substantial profits.

5. Conclusion and Recommendations

The current study empirically evaluated the impact of cash holdings on the financial performance of commercial banks in Pakistan. Good corporate performance played an important role in the development of the financial sector of the economy. So, any obstacles in banking performance were carefully analyzed and addressed by the management to ensure efficiency and stability. Various firm-specific factors can influence the earning capability of the management, of which cash holdings are a noteworthy one.

This study examined the effect of cash holdings on firm performance in 16 commercial banks of Pakistan from the period of 2012 to 2024. The analysis showed that cash holdings had a strong positive relationship with the performance of the commercial banking sector of Pakistan, measured by ROA. Higher levels of cash holdings enable banks to meet their operating needs and to capture investment opportunities on time. The study concludes that the phenomenon under consideration is in accordance with the pecking order theory. The study also shows that high debt is harmful for the bank’s performance, as the cost of external debt financing is high. Therefore, it is better to increase the cash level to avoid any fund shortages for capturing investment opportunities.

The board of directors plays a major role in deciding the firm’s cash holdings and their utilization. This study examined that board independence positively moderates the relationship between cash holdings and commercial banks’ performance. A higher proportion of independent directors enhances the performance of the banks. It is due to the fact that independent directors help mitigate agency problems by acting objectively and without personal or financial ties to the organization. Inclusion of independent directors on the board reduces self-serving behavior by management and signals strong corporate governance practices. They ensure the effective utilization of the company’s funds to support efficient operations and investment in profitable opportunities, which aids firms in improving their performance. The finding demonstrates the importance of strong governance structures in maximizing the benefits of higher cash holding for firm performance.

5.1 Managerial Implication

The findings of this study provide a better understanding for managers regarding cash holdings decisions. During times of financial crises, when the availability of credit is low, firms can enhance their cash reserves to increase their profitability. Firms can also take advantage of investment opportunities with the help of internal funds without any cost. Banks with high growth potential can use cash holding as a powerful tool to increase their performance. This research also provides insight into the corporate decisions regarding the inclusion of independent directors on the board. This study presented a positive moderation effect on the relationship between cash holdings and firm profitability. In view of these findings, it is recommended that companies adopt strict governance standards and include an adequate number of independent directors to enhance the effective utilization of corporate funds.

5.2 Recommendation

In view of the findings of the study, it is recommended that commercial banks should effectively manage the appropriate level of cash, because any change in cash holdings will affect their profitability. The bank should manage cash holdings, keeping in mind the business requirements and investment needs of the bank. Training should be provided to independent and non-executive directors to reduce the agency problem in the employment of cash assets. There is a need to improve the corporate governance mechanism regarding cash holding decisions to enhance profitability.

5.3 Limitations and Future Research

This study is limited to the commercial banking sector of Pakistan. Future research can study this phenomenon in other sectors at the local and international levels. It would better explain the relationship among the variables with a more generalized effect. Due to time constraints, this study only examined the moderating role of board independence. Future studies on cash holding can also shed light on other variables of board attributes, such as board busyness, CEO duality, etc., to examine the impact on firm profitability.

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Conflicts of Interest
The author declares no conflicts of interest.

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