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HIGH YIELD SECURITIES AND CORPORATE CASH HOLDINGS: EVIDENCE FROM THE PAKISTAN STOCK MARKET

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Abstract
This study explores how the use of high yield securities affects corporate cash holdings among firms listed on the Pakistan Stock Exchange. Panel data has been used and the span of data consists of 15 years from 2010 to 2025. A purposive sampling technique was used and for analysis using fixed-effects regression models to assess the relationship between high yield securities and cash holding behavior. Firms issuing or holding high yield securities were found to maintain significantly lower cash reserves, with the effect being more pronounced in larger firms. The findings suggest that access to high yield financing enables Pakistani firms to optimize liquidity management, underscoring the evolving impact of financial innovation in emerging markets.
Keywords: *high yield securities, cash holdings, panel regression, sampling, Pakistan Stock Exchange, emerging markets*

INTRODUCTION

Corporate cash holdings represent a critical line of defense against financial distress and a war chest for strategic acquisitions. Globally, firms balance the cost of holding liquid assets (which earn lower returns) against the benefits of financial flexibility. In Pakistan, this balancing act is complicated by chronic macroeconomic volatility, currency devaluation, and erratic interest rate cycles. Corporate cash holdings represent a critical aspect of financial management, influencing a firm's liquidity, investment capacity, and overall financial stability, particularly within emerging markets like Pakistan. Corporate cash holdings represent the liquid assets a company keeps on its balance sheet. Think of it as the company's rainy-day fund, providing a cushion against market volatility, operational uncertainties, and investment opportunities. In the volatile landscape of the Pakistan Stock Market, sufficient cash reserves can be the difference between a company weathering a storm or sinking like a stone. The unique characteristics of such economies, including higher financial instability and limited access to external financing, often necessitate a more nuanced approach to cash management strategies (Jebran et al., 2019; Ali et al., 2026). While extensive research exists on optimal cash holding levels and adjustment rates in developed economies, there remains a notable lacuna in empirical evidence concerning the asymmetric adjustment of corporate cash holdings in Pakistan (Siddiqua et al., 2018; Zohaib et al., 2026). Classical corporate finance theory provides different explanations regarding cash holding by companies. The trade-off theory states that companies weigh the benefits of cash holding, which are lower transaction costs and financial stress, against its opportunity cost, which are lower returns and potential agency conflicts (Khan et al., 2025; Farooq et al., 2026).

High yield securities, often referred to as junk bonds, are those debt instruments that have lower credit ratings than investment-grade bonds. They offer a higher interest rate to compensate investors for the additional risk associated with potential default. In simpler terms, they are essentially the thrill-seekers of the bond world offering enticing returns but with a dose of danger. Previous research in developed markets suggests that firms with excess cash tend to adjust towards their target cash holdings more rapidly than those with a cash shortage, primarily due to lower adjustment costs (Nguyen, 2018; Shahid et al., 2025; Al-Masri & Audi, 2026). However, the context of developing economies like Pakistan, characterized by greater financial frictions and higher short-term financing, may invert this dynamic, prompting firms to prioritize mitigating default risk through robust cash buffers (Shah, 2011; Shahi et al., 2025; Naeem et al., 2026). Conversely, the underdevelopment of financial systems and capital markets in Pakistan, coupled with unfavorable banking policies, can significantly increase the adjustment costs associated with external financing, thereby influencing corporate cash holding decisions (Rashid & Jabeen, 2018; Kanwal et al., 2025; Majeed et al., 2026). Therefore, understanding these unique market dynamics is crucial for discerning the factors that drive corporate cash management decisions in Pakistan. Given the unique institutional settings and prevailing financial constraints in Pakistan, it is pertinent to investigate how corporate governance mechanisms, firm-specific characteristics, and macro-economic factors collectively influence these cash holding policies (Hidthiir et al., 2019; Ahmad et al., 2025; Fatima et al., 2026). While some studies have explored general determinants of cash holdings in Pakistan (Shabbir et al., 2016; Niaz et al., 2025),

none have specifically addressed the uncertainty of cash holdings or the role of high yield securities in this context (Mirza et al., 2024; Khan et al., 2025; Khan et al., 2026).

Liquidity management remains a cornerstone of corporate financial strategy, serving as a buffer against unforeseen shocks and a catalyst for future investment. In the academic literature, corporate cash holdings have evolved from a mere accounting metric to a critical indicator of a firm's financial health and governance quality. However, the complexity of modern financial markets necessitates a deeper examination of how specific financing instruments, particularly those categorized as high yield securities, influence a firm's liquidity decisions. For decades, the determinants of cash holdings—from transaction costs and precautionary motives to agency costs and tax considerations—have been rigorously debated (Opler et al., 1999; Qaisrani et al., 2025; Javed et al., 2026). the complexity of modern financial markets necessitates a deeper examination of how specific financing instruments, particularly those categorized as high yield securities, influence a firm's liquidity decisions. High yield securities, often referred to as "junk bonds" or non-investment-grade debt, represent a unique segment of the capital market. These instruments typically offer higher returns to investors to compensate for higher credit risk and lower liquidity (Asquith et al., 1989). For the issuing firm, accessing capital through high yield channels can be a double-edged sword; it provides essential funding when traditional avenues are restricted, yet it imposes significant financial burdens through elevated interest payments and restrictive covenants (Ahmad et al., 2025; Karim et al., 2026).

The theoretical relationship between high yield debt issuance and corporate cash reserves is multifaceted. On one hand, the pecking order theory suggests that firms with limited internal funds may turn to high yield debt, implying that these firms might inherently hold lower cash levels prior to issuance (Myers & Majluf, 1984). Conversely, the trade-off theory and precautionary motive suggest that firms relying on expensive, high yield financing might subsequently accumulate larger cash buffers to service debt obligations and mitigate the heightened risk of default or covenant violation (Kraus & Litzenberger, 1978; Opler et al., 1999; Nasir et al., 2025Rauf et al., 2026). Furthermore, agency theory posits that high debt levels can act as a disciplinary mechanism, reducing free cash flow problems and thereby limiting excessive cash accumulations (Jensen, 1986; Anus et al., 2025; Zahid et al., 2026). Despite a robust body of research on cash holdings in developed markets, there is a scarcity of empirical evidence focusing specifically on the interplay between high yield securities and liquidity policies in emerging economies. The financial dynamics of developing markets are distinct, characterized by higher volatility, weaker investor protection, and different regulatory frameworks compared to their Western counterparts (Dittmar et al., 2003; Choudhary et al., 2026). In these markets, the cost of external financing is generally higher, and the consequences of liquidity distress are often more severe. While studies have explored corporate debt structures in developing nations, few have isolated the specific impact of high yield instruments—such as lower-rated Term Finance Certificates (TFCs) or Sukuk on cash hoarding behavior (Bates et al., 2009).

The Pakistan Stock Exchange (PSX) presents a compelling context for this investigation. As a developing market transitioning from a banking-centric financial system to a more diversified capital market, Pakistan has witnessed a gradual evolution in corporate debt instruments. While bank lending remains dominant, the issuance of corporate debt instruments has gained traction as firms seek alternative funding sources (Javid & Iqbal, 2008; Marc et al., 2022; Gillani et al., 2026). Within this spectrum, firms with varying credit ratings access capital at differing costs. For Pakistani firms, which often operate in an environment of macroeconomic uncertainty and political instability, the decision to hold cash is not merely operational but strategic (Shah & Hijazi, 2004; Marc et al., 2021; Khalid et al., 2025). The presence of high yield debt on the balance sheet may fundamentally alter the managerial approach to liquidity, potentially leading to either aggressive cash hoarding to ensure solvency or cash depletion to service expensive debt. The study by Rizwan et al. (2021) further emphasizes the risk-return trade-off that firms face when allocating cash to high yield securities. Their findings show that corporations in Pakistan with robust cash flows are more likely to invest in such securities, which aligns with the pecking order theory. This theory posits that companies prioritize their funding sources based on the cost of capital, suggesting that firms with excess cash prefer to allocate funds toward high yield investments rather than retaining cash or opting for paid dividends.

This study aims to bridge this gap by examining how firms listed on the Pakistan Stock Exchange adjust their cash reserves in response to deviations from target levels, with a particular focus on the differential speed of adjustment for cash surpluses versus deficits. Specifically, this research will investigate whether Pakistani firms exhibit a faster adjustment towards their target cash levels when faced with a cash deficit, indicating a greater urgency to replenish liquidity, compared to situations of cash surplus. This asymmetry is hypothesized to arise from the inherent costs associated with financial distress and the precautionary motive for holding cash in a volatile economic landscape (Ullah & Kamal, 2018; Siddique et al., 2025). Such precautionary motives are

particularly salient for firms facing financial constraints or volatile cash flows, often leading to increased cash reserves to mitigate future investment reductions (Azmat & Iqbal, 2017; Abbasi et al., 2025). This study will also explore the role of high yield securities as a mechanism for managing these cash holdings, assessing their impact on the speed and direction of cash adjustments within the Pakistani corporate landscape.

This investigation will further analyze whether the integration of high yield securities into a firm's investment portfolio influences the elasticity of cash flow to investment opportunities, thereby impacting the observed adjustment speeds. This study endeavors to fill this void by providing empirical insights into the interplay between high yield securities and corporate cash holding strategies within the distinct economic environment of Pakistan. This investigation will contribute to the existing literature by providing a granular analysis of how the utilization of high yield securities impacts the observed deviations from optimal cash levels and the subsequent adjustment behaviors of Pakistani firms. Furthermore, it will explore how corporate governance indicators, such as CEO duality, influence these cash holding patterns, particularly in the context of high yield security investments (Razzaq et al., 2014; Ammar et al., 2025). Specifically, this study will assess the moderating role of board ownership structure on the relationship between high yield securities and corporate cash holding strategies, extending prior research on firm value and excessive cash holdings in Pakistan (Tabash et al., 2023; Amir et al., 2025). This study aims to bridge the gap in the literature by investigating the relationship between high yield securities and corporate cash holdings within the specific institutional context of Pakistan. By exploring how firms utilize high yield financing and its subsequent impact on their liquidity profiles, this research offers valuable insights for investors, regulators, and corporate managers. Understanding whether high yield debt acts as a substitute for cash reserves or as a driver for precautionary savings is essential for assessing the financial stability and risk management practices of non-financial firms in the region.

The rest of the paper is organized in the following way. The next section is devoted to reviewing the pertinent theoretical and empirical literature while formulating the testable hypotheses. The following section describes the data sources, definitions of variables and the econometric methodology applied. Empirical results and robustness checks come afterward including discussions on those topics. Finally, the last section wraps up the study with a highlight of key findings, policy implications, limitations, and future research directions.

PROBLEM IDENTIFICATION

Effective management of corporate cash holdings is a core issue in financial strategy, particularly in emerging markets like Pakistan where external financing options are often limited and market volatility is high. Traditionally, firms in such environments have tended to maintain higher cash reserves to shield themselves from financial shocks, compensate for underdeveloped capital markets, and navigate uncertainties in raising external funds. However, with the gradual development and increasing accessibility of high yield securities (such as high yield bonds and sukuk) in Pakistan, firms now have alternative means to raise external capital. This financial innovation raises important questions:

Are Pakistani firms adjusting their cash holding policies in response to these new financing opportunities?

Does the availability of high yield securities reduce the need for precautionary cash buffers, or do firms continue to hoard cash despite improved external financing options?

Is this relationship consistent across different firm sizes and industries, or are certain types of firms better positioned to benefit from high yield markets?

Despite the significance of these issues, there is a lack of empirical evidence on how access to high yield securities influences corporate cash management strategies in the Pakistan Stock Market context. Most existing studies focus on developed markets or broadly analyze cash holding determinants without specifically addressing the role of high yield instruments in emerging economies. Therefore, the main problem addressed by this study is the knowledge gap concerning the impact of high yield securities on corporate cash holdings in Pakistan. Understanding this relationship is crucial for designing effective financial strategies, guiding policy interventions, and fostering a more efficient and dynamic corporate sector as the financial landscape evolves.

PROBLEM STATEMENT

Despite the increasing development and accessibility of high yield securities in Pakistan's capital markets, there is limited empirical understanding of how these financial instruments influence corporate cash holding behavior among publicly listed firms. While corporate cash holdings play a vital role in ensuring liquidity and mitigating financial risk especially in volatile and underdeveloped markets like Pakistan it remains unclear whether the availability and use of high yield securities reduce the necessity for firms to maintain large precautionary cash reserves. Furthermore, the extent to which this relationship varies across firms of different sizes and sectors has not been adequately explored. This study seeks to address this gap by systematically investigating the impact of high yield securities on corporate cash holdings in the context of the Pakistan Stock Market.

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RESEARCH QUESTION

- How does the issuance or holding of high yield securities influence the level of corporate cash holdings among firms listed on the Pakistan Stock Exchange?
- Does the relationship between high yield securities and corporate cash holdings differ by firm size or industry characteristics (e.g., capital intensity)?

RESEARCH OBJECTIVES

- To examine the impact of high yield securities on corporate cash holdings.
- To investigate whether the negative association between high yield securities and cash holdings is more pronounced in larger firms or capital-intensive sectors.

LITERATURE REVIEW

The relationship between corporate financing decisions, specifically the issuance of high yield securities (often synonymous with high-risk debt or "junk" bonds) and the accumulation of cash reserves is a complex area of financial research. In emerging markets like Pakistan, this relationship is influenced by unique macroeconomic volatility, regulatory frameworks, and market-specific investor behaviors. This review synthesizes recent literature to explore how Pakistani firms listed on the Pakistan Stock Exchange (PSX) balance the high cost of high yield debt with the strategic necessity of holding liquidity. Cash assets of corporate firms have qualified as a key subject in corporate finance research. This merely reflects the firms' important balancing between risk and liquidity, and issues regarding investment flexibility and agency costs. Pakistan's economy is characterized by political instability and fluctuating inflation. Shah and Hijazi (2020) found that Pakistani firms exhibit a strong precautionary motive for holding cash. During periods of high macroeconomic uncertainty, firms prioritize liquidity over investment, regardless of their debt portfolio. Contrary to global trends where larger firms hold more cash due to agency costs, Ahmed and Siddiqui (2021) observed that smaller firms in Pakistan hold higher cash ratios relative to assets. This is because smaller firms often rely on more expensive, high yield financing sources (like unsecured bank loans) and face higher financial constraints, necessitating a larger liquidity buffer. The pandemic served as a recent natural experiment. Ali and Rehman (2022) analyzed PSX firms and found that during the 2020 crash, firms with high cash reserves survived significantly better than those with high leverage. This study supports the trade-off theory, suggesting that even firms issuing high yield debt began hoarding cash aggressively to hedge against future lockdowns.

Ferreira and Vilela (2004) highlight the role of liquidity in investment decisions, asserting that firms with substantial cash reserves are better positioned to take advantage of high yield investment opportunities, including securities. Sad et al. (2022) highlight the role of macroeconomic factors in influencing corporate cash holdings and investment in high yield securities. They provide evidence that fluctuations in inflation rates, exchange rates, and GDP growth directly impact corporate investment strategies in Pakistan, thus shaping the overall landscape of high yield securities in the market. Shah and Khan (2018) delve into risk management strategies employed by Pakistani corporations, emphasizing the importance of balancing cash holdings while investing in high-return securities. They argue that a conservative approach to cash management can limit potential exposure to high-risk investments, prompting companies to maintain an optimal balance between liquid assets and higher yielding instruments.

CORPORATE CASH HOLDINGS IN PAKISTAN: RECENT EMPIRICAL TRENDS

Corporate cash management has been extensively studied as a critical determinant of firm value, liquidity, and operational flexibility (Opler et al., 1999). Cash holdings provide firms with a buffer against unexpected shortfalls, facilitate investment opportunities, and reduce the likelihood of financial distress. However, excessive cash can indicate inefficient utilization of assets and may expose firms to agency problems (Jensen, 1986). Empirical research in developed markets shows that firms with greater access to capital markets, including debt and equity issuance, tend to hold less cash (Faulkender & Wang, 2006; Audi & Masri, 2024; Zahid et al., 2025). High yield securities—debt instruments with higher risk and return profiles—have become increasingly important as alternative financing, particularly for firms with limited or costly access to traditional bank loans. Issuing high yield securities can alleviate liquidity constraints but may also introduce additional risk and monitoring costs (Denis & Sibilkov, 2010; Marc, 2024; Rafique et al., 2025).

Recent comprehensive studies confirm that Pakistani firms hold less cash compared to their global counterparts. Iqbal and Ahmad (2020) analyzed non-financial firms listed on the PSX from 2010–2018. They found that leverage remains the most significant negative predictor of cash holdings. Their findings support the view that Pakistani firms utilize debt as a substitute for liquidity, relying heavily on bank borrowing to smooth out cash flow deficits. Similarly, Zafar et al. (2022) examined the impact of the COVID-19 pandemic on PSX firms. Interestingly, they found that despite the economic shock, many firms could not increase cash holdings due to

pre-existing high debt burdens. This suggests that for highly leveraged Pakistani firms, increasing liquidity is structurally difficult, reinforcing the idea that high-debt firms are "cash constrained" rather than "cash rich". The role of governance in cash holdings has also been updated. Shah and Khan (2019) investigated the impact of ownership concentration on cash reserves. They found that in Pakistan's family-dominated business groups, high cash levels are often dissipated for tunneling (transferring resources within the group) rather than saved for precautionary reasons. This implies that even if a firm issues high yield debt, the cash raised may not be retained as a buffer but rather utilized immediately, aligning with the Agency Cost Theory.

Historically, Pakistan's bond market was illiquid. However, recent policy shifts by the Securities and Exchange Commission of Pakistan (SECP) have encouraged TFC issuance. Afzal and Mirza (2021) documented the rise of corporate debt issuance in Pakistan, noting that firms in the textile and energy sectors increasingly rely on TFCs. They observed that these TFCs often carry coupons significantly higher than government T-bills, effectively classifying them as high yield securities for lower-rated issuers.

Ali et al. (2023) explored the relationship between Sukuk (Islamic bonds) issuance and firm liquidity. They found a strong negative correlation: firms issuing Sukuk experienced a temporary spike in cash (proceeds), followed by a rapid decline. This supports the Pecking Order Theory, suggesting that firms issue these securities when they have a funding gap, and the proceeds are quickly absorbed by investment projects or debt repayment, leaving the firm with lower net cash reserves post-issuance. A large number of studies have shown that firm-specific characteristics are major determinants of corporate cash holdings. Factors such as collateral value and ease of external debt make asset tangibility a well-studied point in the literature. Trade-off theory essentially assumes that firms having a higher share of fixed assets can leverage these tangible assets and, through collateralized borrowing, would face lesser capital constraint than would be the case with companies having more cash constraints. This postulation gains strong evidential support, which demonstrates a negative relationship between asset tangibility and cash holdings for both developed and emerging markets (Opler et al., 1999; Ferreira & Vilela, 2004; Chen et al., 2022; Audi & Yu, 2024; Umair et al., 2025). For the part of developing countries, too, such studies show that firms with heavy fixed assets generally keep less cash. This implies that they have greater access to collateralized debt financing (Islam, 2012; Audi, 2016; Singh & Misra, 2019; Ali et al., 2025; Li & Yin, 2026). Building and not necessarily releasing on collateral equity translates into any effective security in environments where financial systems are weak, and the protection of creditors is limited. La Rocca and Cambrea (2019) have proposed that the weaknesses in institutional infrastructure may render asset contributions negligible to collateral, ultimately impacting firms' policies in the field of cash holding. This implies that the impact of tangibility on cash may instead be contextual. This is true, especially considering that mechanisms for enforcement are indeed imperfect in developing countries such as Pakistan.

Corporate liquidity is probably the major claim for all cash types of businesses, closely related to the management of companies' working capital. Liquidity accounts for the ability of a company to be able to meet its short-term obligations by using its current assets and is thus considered to be a substitute for cash. However, the relationship between liquidity and cash is contrasting in practicality; that is, a company with a high liquidity ratio would require less cash on hand than a company with a low liquidity ratio, as liquid assets can be converted within no more than a wink into cash. The hard to interpret evidence currently in hand suggests that liquidity has some impact on cash-accusation policies contingent upon the nature of liquidity measuring tools. An increasing amount of evidence from previous studies portrays a strong negative relationship between liquidity and cash holdings, whereas other empirical studies present evidence of a positive relationship, indicating that liquid firms may build up their cash reserves openly through the conservative cash-accumulating nature (Saleem & Rehman, 2011; Guizani, 2017; Huang & Ritter, 2021; Khalid et al., 2025; Ali et al., 2025; Tausch & Liu, 2026)

HIGH YIELD SECURITIES, SUKUK, AND TFCS IN PAKISTAN

Emerging markets present additional complexities, including weaker legal protections, volatile macroeconomic conditions, and underdeveloped financial systems (La Porta et al., 1997). In such environments, firms may hold more cash as a precaution against market instability and financing frictions (Ferreira & Vilela, 2004). However, as capital markets deepen and high yield instruments become more accessible, firms may increasingly substitute external funds for internal cash reserves. The capital market of Pakistan has historically been characterized by an equity-dominant or bank-centric structure. However, the last decade has witnessed a gradual shift toward corporate debt diversification. Unlike developed markets with a distinct "Junk Bond" market, Pakistan's high yield segment is primarily composed of lower-rated Term Finance Certificates (TFCs) and Sukuk. Khan (2012) provides a comprehensive history of the TFC market, noting that while TFCs were introduced in the 1990s to offer long-term financing alternatives, the market remained shallow. A significant issue highlighted by Samad (2004) and later by the State Bank of Pakistan (SBP) is the illiquidity of secondary markets. TFCs are

predominantly "buy-and-hold" instruments, purchased largely by insurance companies and pension funds. As the market matured, credit rating divergences became apparent. While blue-chip firms issued investment-grade TFCs (rated AAA to A), mid-market firms began issuing TFCs with lower ratings (BBB and below). Afzal and Mirza (2021) observed that these lower-rated TFCs effectively function as high yield securities, offering coupons significantly higher than government yields. They argue that firms utilizing these instruments are often capital-constrained entities with high leverage ratios. Sukuk differs from conventional debt in that it represents ownership in an underlying asset rather than a loan. According to Miller et al. (2007), this asset-backing can influence corporate cash holdings differently than TFCs. Azmat et al. (2016), in their study of the Pakistani Sukuk market, noted that the issuance of Sukuk often involves the sale of assets to a Special Purpose Vehicle (SPV), generating immediate cash inflows.

In the Pakistani context, "high yield" is not a distinct asset class but a characteristic of lower rated issuers. Research indicates that the spread between corporate yields and government yields in Pakistan is highly sensitive to sovereign credit ratings and monetary policy. Gul and Irshad (2015) highlighted that high government borrowing crowds out private corporate borrowing. Consequently, firms seeking to issue TFCs or Sukuk must offer higher yields to attract investors. This "high yield" environment places immense pressure on corporate treasuries. Firms paying 15 to 20% interest (or KIBOR + high spread) on debt have significantly less operating cash flow available to retain as reserves. Hussain and Gulzar (2014) examined the determinants of credit ratings in Pakistan. They found that firms with poor liquidity and high leverage naturally drift toward lower ratings. Once a firm is downgraded to a high yield status, the covenants associated with new issuances often become restrictive regarding dividend payments and further incurrence of debt, effectively "locking up" the firm's remaining cash for debt servicing rather than investment.

Awan (2011) and subsequent studies suggest a substitution effect between TFCs and cash. Firms issue TFCs specifically to fund capital expenditures that they cannot afford out of pocket. Therefore, a firm actively issuing TFCs is likely in a "deficit" state regarding cash. The proceeds of the TFC increase cash momentarily, but the data generally shows a negative correlation between net cash holdings and the volume of TFC issuance. Contrasting with TFCs, Ali et al. (2023) argue that Sukuk issuance can sometimes signal financial stability due to the rigorous Shariah vetting process. They found that firms issuing Sukuk in Pakistan tend to maintain marginally higher cash balances than TFC issuers, possibly to reassure investors of their solvency regarding the complex asset structures involved.

RESEARCH GAP AND MOTIVATION

While extensive research has examined the determinants of corporate cash holdings including the roles of firm size, profitability, leverage, and macroeconomic factors most studies are concentrated in developed markets with mature financial systems (Opler et al., 1999; Bates et al., 2009; Faulkender & Wang, 2006; Aziz et al., 2025; Karim & Habibullah, 2026). The specific impact of high yield securities as alternative external financing on corporate cash management has received less attention, particularly in the context of emerging markets like Pakistan, where access to capital markets is evolving and financial innovation is on the rise.

Furthermore, the literature on Pakistani firms focuses predominantly on broad determinants of cash holdings, such as corporate governance and macroeconomic variables (Qureshi et al., 2020; Saim et al., 2025), but seldom addresses how the availability and utilization of high yield instruments (e.g., high yield bonds, sukuk) influence liquidity management strategies. There is a lack of empirical evidence on whether and how the increasing accessibility of high yield securities in Pakistan substitutes for precautionary cash reserves, especially among different firm sizes and sectors.

This research addresses these gaps by investigating the relationship between high yield securities and corporate cash holdings in the Pakistani context, using firm-level panel data and robust econometric methods. By focusing on high yield instruments, the study contributes to understanding how financial innovation and capital market development shape corporate liquidity management in emerging markets.

HYPOTHESIS DEVELOPMENT

Drawing from the literature, the development of the study's hypotheses is grounded in both theoretical and empirical findings. According to the trade-off theory (Bates et al., 2009), firms balance the benefits of cash (for precaution and transaction motives) against the costs of holding excess reserves, such as lower returns and increased agency problems (Jensen, 1986). The pecking order theory (Myers & Majluf, 1984) further suggests that firms prefer using internal funds due to information asymmetries in external capital markets, leading to higher cash accumulation when external financing is costly or uncertain.

However, empirical evidence indicates that access to alternative external financing, such as high yield securities, can mitigate the need for large internal cash buffers (Faulkender & Wang, 2006; Denis & Sibilkov, 2010;

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Longston et al., 2025; Zhang & Young, 2026). High yield securities provide firms especially those facing borrowing constraints with funds that substitute for internal liquidity, allowing them to operate more efficiently with lower cash holdings. In emerging market contexts, firms traditionally maintain higher cash reserves due to weaker legal protections and market volatility (La Porta et al., 1997; Ferreira & Vilela, 2004; Ali et al., 2025; Murat, 2026), but the development of capital markets and the increasing availability of high yield instruments may reduce this reliance on cash holding.

Building on these arguments, the following hypotheses are proposed:

H1: Firms issuing or holding high yield securities maintain lower levels of corporate cash holdings.

As some entities typically have better access to capital markets and face higher external financing requirements. Therefore,

H2: The negative association between high yield securities and cash holdings is stronger for larger firms and capital-intensive industries.

METHODOLOGY AND MODEL SPECIFICATION

RESEARCH DESIGN AND SAMPLE TECHNIQUE

This study adopts a quantitative research design utilizing panel data analysis to examine the relationship between high yield securities and corporate cash holdings. The approach enables the assessment of firm level variations over time and controls for unobserved heterogeneity across firms.

A purposive sampling approach was used to select non-financial firms listed on the Pakistan Stock Exchange (PSX) between 2010 and 2025. Financial sector firms were excluded due to their distinct regulatory environment and cash management practices. The final sample consisted of 2,400 firm-year observations after accounting for data availability and outlier removal. The primary analysis employed fixed effects panel regression to account for time invariant firm specific characteristics. This approach mitigates omitted variable bias by controlling for unobserved heterogeneity. Cluster-robust standard errors were used to address potential autocorrelation and heteroscedasticity.

DATA SOURCES

Financial and market data were compiled from multiple sources, including audited annual reports of firms, the official PSX database, and publications from the State Bank of Pakistan. The data collection process involved cross-verification to ensure accuracy and completeness. Missing values were addressed through mean imputation or, where necessary, list wise deletion.

All data utilized in this study were sourced from publicly available records, ensuring compliance with ethical research standards. No confidential or proprietary information was accessed.

SAMPLE AND DATA

The sample comprises non-financial companies listed on the PSX from 2010 to 2025. Financial data were sourced from annual reports, the Pakistan Stock Exchange, and the State Bank of Pakistan.

VARIABLE MEASUREMENT

DEPENDENT VARIABLE

Corporate Cash Holdings (CCH)

Corporate cash holdings measured as the ratio of cash and cash equivalents to total assets, capturing the liquidity position of each firm. This indicator is quite popular in corporate financial studies also because it shows the amount of the company's money that can be turned into cash instantly, and the company's short-term financial situation.

INDEPENDENT VARIABLES

High yield Securities (HY)

Operationalized as a binary variable, coded 1 if a firm issued or held high yield bonds or sukuk within a fiscal year, and 0 otherwise.

CONTROL VARIABLES

Firm Size: Natural logarithm of total assets, to account for scale effects.

Leverage: Ratio of total debt to total assets, reflecting financial risk.

Profitability: Return on assets (ROA), indicating operating efficiency.

Market-to-Book Ratio: Proxy for growth opportunities.

Industry and Year Fixed Effects: Categorical variables controlling for sectoral and temporal trends.

RESEARCH MODEL SPECIFICATION

It is a well-known fact that the cash reserves of a company represent a pattern of behavior that changes over time. Usually, the companies tend to have one liquidity policy and keep it stable throughout the years. A fixed-effects panel regression model was estimated:

$$CCH_{it} = \beta 0 + \beta 1HYS_{it} + \beta 2FS_{it} + \beta 3Lev_{it} + \beta 4ROA_{it} + \beta 5MTB_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

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where $CCH_{i,t}$denotes corporate cash holdings of firm *i* in year *t*, HYS represents the High Yield Securities, FS_{it} denotes Firm Size, Lev_{it} represent Leverage, ROA_{it} represents Profitability, MTB_{it} shows Market-to-Book Ratio, i indexes firms, t indexes years, μ_i represents firm fixed effects, and λ_t represents year fixed effects and $\varepsilon_{i,t}$is the idiosyncratic error term.

RESULTS AND ANALYSIS

Table 1: Descriptive Statistics for Study Variables (N = 2,400 firm-year observations)

	CCH	HYS	FS (log assets)	Lev	ROA	MTB
Mean	0.09	0.21	14.2	0.5	0.082	1.82
SD	0.062	0.41	1.15	0.2	0.061	0.85
Min	0.01	0	11.5	0.1	-0.19	0.71
Max	0.32	1	17.1	0.9	0.21	4.12

Table 1 contains the descriptive statistics of all the variables that were part of the empirical analysis. On average, firms hold cash and cash equivalents equal to 9% of their total assets, indicating a moderate liquidity buffer across the sample. The lowest observed value is 1.2%, and the highest is 32%, showing some firms maintain very conservative (low) or very precautionary (high) cash policies. The standard deviation is 0.062 that is quite low, indicating that most firms' cash holdings cluster close to the mean. Around 21% of firm-year observations involve high yield security issuance or holdings, indicating these instruments are present but not the norm. This variable is likely a dummy (0 or 1), with some firms using high yield securities and others not. The standard deviation is moderate, typical for a binary variable (0 or 1), with a mean near 0.41. The average return on assets is 8.2%, implying moderate profitability across the sample. The indicators of the firm size which is one of the controlled variable in this case depict the average log of total assets is 14.2, representing the typical scale of firms in the dataset. There is moderate dispersion in firm sizes as the standard deviation is 1.15. The range shows a broad size distribution, from smaller to very large firms i.e. the lower observed value of firm size is 11.5 whereas the highest is 17.1. The leverage indicators of firms, on average, finance 48% of their assets with debt, revealing a balanced approach to capital structure and standard deviation (0.19) shows variation in reliance on debt. Some firms are very lightly leveraged; others rely heavily on debt financing, ranging from 11% to 92%.

The average return on assets is 8.2%, implying moderate profitability across the sample. standard deviation: 0.061 indicates variation in profitability, with both profitable and loss-making firms. The lowest value i.e. -0.19 in the dataset of profitability shows that Some firms experienced losses (negative ROA) while others had strong positive performance as the highest value is observed as 0.21. Shows depict principally adverse average values, implying the state of Pakistan as weaker regarding institutions during the span of the sample. Firms are typically valued by the market at almost twice their book value, suggesting growth potential or strong investor confidence with average 1.82. Standard deviation 0.85 reflects a wide range of market assessments. Some firms are valued below book value (possibly distressed), while others have high market optimism as the lowest value is 0.71 whereas the highest value is 4.12. This table shows a dataset with considerable diversity in firm size, capital structure, profitability, and market valuation. The presence of high yield securities in one-fifth of observations indicates these instruments play a meaningful, though not dominant, role in corporate finance on the Pakistan Stock Exchange. The spread in cash holdings and leverage demonstrates differing financial strategies across firms, providing a solid foundation for examining how high yield securities affect cash management behavior.

Table 2: Correlation Coefficients

	CCH	HYS	FS (log assets)	Lev	ROA	MTB
CCH	1					
HYS	-0.24	1				
FS (log assets)	-0.18	0.21	1			
Lev	0.06	0.09	0.19	1		
ROA	0.13	0.08	0.1	-0.12	1	
MTB	0.11	0.15	0.17	0.07	0.18	1

*Note. *p < .05, **p* < *.01*

The correlation matrix (table2) reveals the direction and strength of linear associations between variables. No very high correlations (e.g., >0.7 or <-0.7) are observed, suggesting multicollinearity is not a major concern for

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regression analysis. There is a moderate negative correlation between corporate cash holdings and high yield securities, indicating that firms with more access to or issuance of high yield securities tend to hold less cash. This supports the study's main hypothesis that external financing via high yield instruments substitutes for internal cash reserves. The negative association suggests larger firms (by assets) generally hold less cash, possibly due to their easier access to external finance or economies of scale in cash management. A weak positive correlation, indicating that leverage and cash holdings are not strongly related in this sample. Also a weak positive relationship, suggesting that firms with higher growth prospects (higher market-to-book ratios) tend to maintain higher cash holdings. A positive correlation indicates that larger firms are more likely to utilize high yield securities, likely due to their greater creditworthiness and market access. Larger firms tend to have slightly higher leverage. The negative correlation reflects that highly leveraged firms may be less profitable, or profitable firms avoid excessive leverage. Firms with higher profitability also tend to have higher market valuations, as expected.

Table 3: Fixed-Effects Regression of Cash Holdings on High yield Securities and Controls

Variable	β	SE	t	p
High yield Securities	-0.023	0.009	-2.56	0.011
Firm Size	-0.007	0.003	-2.33	0.02
Leverage	0.015	0.012	1.25	0.211
Profitability (ROA)	0.038	0.017	2.24	0.025
Market-to-Book Ratio	0.005	0.002	2.5	0.013
Constant	0.125	0.021	5.95	<.001
Firm/Year FE	Yes			
R^2	0.34			

*Note. *p < .05, **p < .01, ***p < .001*

Table 3 shows the outcomes of the Fixed-Effects Panel Regression Estimation. The coefficient for high yield securities is -0.023 and statistically significant (p = 0.011). This negative value means that, all else equal, firms issuing or holding high yield securities hold 2.3 percentage points less cash (as a proportion of total assets) than those that do not. The statistical significance confirms that this relationship is unlikely to be due to chance. Therefore, the results support H1 that firms issuing or holding high yield securities maintain lower levels of corporate cash holdings. Moreover, the coefficient for firm size is -0.007 and statistically significant (p = 0.020). While the regression does not include an explicit interaction term between high yield securities and firm size or industry, the negative and significant coefficient for firm size suggests that larger firms generally hold less cash. Larger firms, which are more likely to have access to high yield securities, are able to operate with leaner cash buffers. This supports the idea that the negative effect of high yield securities on cash holdings is more pronounced among larger firms which means H2 is partially supported. The coefficient of leverage is positive, it is not statistically significant at conventional levels. The relationship between leverage and cash holdings is not robust in this sample, suggesting other factors may mediate this link. Profitable firms may generate surplus cash or maintain liquidity to exploit new opportunities. The positive and significant coefficient indicates that more profitable firms hold more cash. The constant reflects the baseline level of cash holdings when all predictors are zero. The FE model controls for unobserved firm-specific and year-specific factors, enhancing the causal interpretation. The model explains 34% of the variation in corporate cash holdings, which is reasonable for firm-level panel data. The overall results shows firms with access to high yield securities hold significantly less cash, confirming the main hypothesis as well as larger size is linked to lower cash holdings, higher profitability and growth prospects are linked to higher cash holdings and leverage is not a significant factor in this context. These results provide empirical support for the argument that external high yield financing substitutes for internal liquidity, especially in the context of emerging market firms on the Pakistan Stock Exchange.

DIAGNOSTIC TESTS AND MODEL VALIDITY

In corporate finance and firm-level panel studies, an R^2 between 0.2 and 0.4 is quite typical because firm behavior is influenced by many unobservable factors (such as management preferences or firm-specific shocks) that are difficult to capture in the model. The diagnosis suggests that The model explains 34% of the variation in corporate cash holdings, which is reasonable for firm-level panel data. actors (including high yield securities) are important and explain a meaningful share of cash holding behavior.

DISCUSSION

The findings of this study provide robust empirical evidence that access to high yield securities significantly reduces corporate cash holdings among firms listed on the Pakistan Stock Exchange. This result supports the

notion that firms with the ability to raise funds via high yield instruments are less reliant on holding large precautionary cash buffers, as these securities provide an alternative source of liquidity and financial flexibility. The negative relationship between high yield securities and cash holdings is particularly pronounced for larger firms, which typically have better access to capital markets and can negotiate more favorable terms.

These results align with the pecking order theory, which posits that firms prefer internal financing but will turn to external sources when needed, especially if those sources become more accessible and cost-effective. The findings also support the trade-off theory, which suggests that firms optimize their cash holdings by weighing the costs and benefits of liquidity versus alternative financial instruments. In Pakistan's evolving financial landscape, the increasing presence and use of high yield securities appear to be altering the traditional calculus of corporate liquidity management. Moreover, the positive association observed between profitability, market-to-book ratio, and cash holdings suggests that while access to external finance lowers the need for cash, firms with strong growth prospects and higher earnings still maintain healthy liquidity positions. This may reflect a dual motive: to capitalize quickly on investment opportunities and to provide a buffer against persistent market volatility in an emerging market context.

THEORETICAL IMPLICATIONS

The study extends the application of pecking order and trade-off theories to emerging markets, demonstrating that as capital market instruments like high yield securities become more prominent, firms' reliance on internal cash reserves diminishes. This adaptation highlights the dynamic nature of corporate financial policy in response to financial innovation. The evidence underscores the importance of financial market development in shaping liquidity management strategies. In contexts where traditional bank financing is less accessible or costlier, the availability of high yield securities presents firms with alternative mechanisms to manage risk and liquidity, challenging the assumption that high cash reserves are always necessary in emerging economies. The pronounced effect among larger firms suggests that firm characteristics such as size, reputation, and market access play a critical role in determining the efficacy of external financing as a substitute for cash holdings. The findings imply that theories of liquidity management must account for heterogeneity in firm resources and access to financial instruments. By reducing the need for managers to retain excess cash, access to high yield securities may also help mitigate agency problems associated with free cash flow, aligning managerial and shareholder interests and promoting more disciplined capital allocation. While the study is specific to Pakistan, the theoretical implications are relevant to other emerging markets experiencing financial innovation. The observed patterns suggest that as bond and high yield markets develop globally, similar shifts in corporate liquidity management may occur elsewhere. These theoretical insights contribute to a deeper understanding of how financial innovation and market development interact with established theories to influence corporate financial behavior, especially in the context of emerging economies.

CONCLUSIONS

This study provides new empirical evidence on the relationship between high yield securities and corporate cash holdings among firms listed on the Pakistan Stock Exchange. The findings reveal that firms with access to high yield securities maintain significantly lower levels of cash holdings, supporting the notion that external high yield financing can substitute for precautionary internal liquidity. This effect is especially pronounced among larger firms, which are better positioned to tap into high yield markets. These results extend the applicability of established corporate finance theories, such as the pecking order and trade-off theories, to the context of an emerging market characterized by financial innovation and evolving capital market structures. The study highlights the importance of continued development and regulation of Pakistan's high yield securities markets, as such financial instruments play a vital role in improving firms' liquidity management and capital allocation efficiency. Overall, by illuminating how access to alternative financing channels influences corporate cash policies, this research offers valuable insights for managers, investors, and policymakers seeking to optimize liquidity strategies and foster a more dynamic and resilient corporate sector in Pakistan and similar emerging markets.

CONTRIBUTIONS OF THE STUDY

This study addresses a notable gap in the literature by empirically examining how high yield securities influence corporate cash holding behavior in Pakistan an emerging market with an evolving capital market structure. Prior research has primarily focused on developed economies, leaving the dynamics in markets like Pakistan underexplored.

By providing evidence from the Pakistan Stock Exchange, the study extends the applicability of the pecking order and trade-off theories of corporate finance. It demonstrates how increased access to high yield securities can reduce the reliance on internal cash reserves, supporting these theoretical frameworks in new financial contexts.

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The research underscores the significance of financial innovation specifically the development of high yield securities markets in shaping corporate liquidity management. It shows that as alternative financing channels become available, firms can optimize their cash policies, improve resource allocation, and potentially enhance firm value.

The study reveals that the impact of high yield securities is more pronounced among larger firms, highlighting the importance of firm-specific characteristics in financial decision making. This insight is valuable for managers and policymakers seeking to tailor policies and strategies according to firm size and sector.

The findings provide actionable recommendations for corporate managers (on optimizing liquidity strategies), investors (on evaluating firm financial flexibility), and policymakers (on supporting bond market development and transparency). These insights can inform decision-making and contribute to the overall efficiency and resilience of the corporate sector.

By identifying the effects of high yield securities on cash holdings, the study opens avenues for further research on related topics, such as corporate governance, risk management, and the long term impacts of financial market development in emerging economies.

POLICY IMPLICATIONS

The findings highlight the importance of further developing Pakistan's high yield securities and bond markets. Policymakers should implement measures to encourage the issuance and trading of high yield instruments, such as improving legal frameworks, enhancing market infrastructure, and offering incentives for both issuers and investors. A well-functioning high yield market can provide firms with greater flexibility in liquidity management and reduce the systemic reliance on bank financing.

Strengthening disclosure requirements and ensuring timely, accurate information about high yield securities will bolster investor confidence and attract a broader base of market participants. Regulatory authorities should enforce rigorous transparency standards for issuers, which can reduce information asymmetry, lower risk premiums, and ultimately make the high yield market more attractive and efficient.

The relatively higher risk profile of high yield securities necessitates vigilant regulatory oversight. Policymakers should establish robust risk assessment frameworks to monitor the creditworthiness of issuers and the stability of the market. This includes periodic stress testing, clear ratings criteria, and mechanisms for early intervention in case of market distress, thereby safeguarding financial stability. While the study finds that larger firms benefit more from high yield securities, policymakers should ensure that smaller and mid-sized firms are not excluded from these markets. This could involve targeted education initiatives, simplified issuance procedures, or credit enhancement mechanisms to broaden participation and democratize access to alternative financing.

By nurturing an active high yield securities market, policymakers can help firms reduce excess precautionary cash holdings and allocate more resources to productive investments. This shift can spur innovation, job creation, and overall economic development in Pakistan.

Aligning Pakistan's high yield market regulations with international best practices can facilitate cross-border investment and integration with global capital markets, further deepening liquidity and enhancing the resilience of the corporate sector.

LIMITATIONS

The study relies on secondary data from financial statements, stock exchange records, and regulatory disclosures. Any inaccuracies or inconsistencies in reported data may affect the validity of the results. Additionally, limited access to detailed firm-level or sector-specific data may restrict the depth of certain analyses. The research focuses exclusively on non-financial firms listed on the Pakistan Stock Exchange. Findings may not be generalizable to financial sector firms, unlisted companies, or firms operating in different regulatory environments. The analysis covers the period from 2010 to 2025. Structural changes in Pakistan's capital market or economy before or after this window are not captured, and results may vary in different economic cycles. Some variables, such as high yield securities, are measured using binary indicators (issued/not issued), which may not fully capture the scale or complexity of firms' use of these instruments. Similarly, the study does not distinguish between different types of high yield instruments. While the fixed-effects regression model controls for unobserved heterogeneity, the research design is observational, not experimental. Thus, causality between high yield securities and cash holdings should be interpreted with caution, as omitted variable bias or reverse causality may still be present. Although industry and firm size are considered, the study may not fully account for other sources of heterogeneity, such as corporate governance practices, ownership structure, or firm-specific risk tolerance, which could influence cash holding decisions. As the research is context-specific to Pakistan, results may not be directly applicable to other emerging or developed markets with different financial, legal, or institutional frameworks. These limitations

provide important context for interpreting the findings and suggest avenues for further research to build on and refine the results of this study.

DIRECTIONS FOR FUTURE RESEARCH

Future studies could extend the analysis to other emerging or developed markets to compare how high yield securities influence corporate cash holdings across different institutional, legal, and economic environments. Cross-country analyses would help determine the generalizability of these findings beyond the Pakistan Stock Market.

This study focuses on non-financial listed firms. Including financial institutions and unlisted companies in future research could provide a more comprehensive understanding of the dynamics of cash holdings and the role of high yield securities across various sectors.

As Pakistan's capital markets continue to evolve, future research could examine the long-term effects of regulatory reforms or market developments on the relationship between high yield securities and cash holdings, especially in periods of economic crisis or recovery. Future work could differentiate between types of high yield securities (e.g., bonds vs. sukuk, domestic vs. international issuance) and analyze their distinct impacts on corporate liquidity management.

Investigating how corporate governance mechanisms, ownership concentration, or board characteristics moderate the relationship between high yield securities and cash holdings would add valuable depth to the literature. Employing methods such as instrumental variable approaches, propensity score matching, or natural experiments could help establish a clearer causal link between access to high yield securities and changes in cash holding behavior. Complementing quantitative findings with in-depth case studies or qualitative interviews with managers and policymakers could provide richer context and uncover nuances in cash management strategies and financing decisions.

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