



DETERMINANTS OF CORPORATE CASH HOLDINGS IN EMERGING ECONOMIES: EMPIRICAL EVIDENCE FROM NON-FINANCIAL FIRMS IN PAKISTAN

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Abstract

This research examines the factors that influence corporate cash reserves especially in an emerging market context such as Pakistan by looking at the firm-level financial characteristics and country-level governance quality as factors. The study takes a balanced panel of non-financial firms listed on the Pakistan Stock Exchange during the years 2012-2023, and utilizes a dynamic System Generalized Method of Moments (System GMM) estimator to deal with the issues of cash holding behavior persistence and endogeneity. The variables asset tangibility, liquidity, and national governance quality are included as the main ones to be explained. The way country-level governance is assessed is through six dimensions of the Worldwide Governance Indicators including voice and accountability, government effectiveness, political stability and absence of violence, regulatory quality, rule of law, and control of corruption, which are then aggregated through principal component analysis. The findings show that the asset tangibility lowers significantly the cash holdings of the company, which is in line with the collateral and trade-off approach, while liquidity has a significant positive impact thus confirming the precautionary motive for cash holding. The governance impact is complex: the government's soundness and voice and accountability are correlated positively with cash holding while political stability has an inversely related situation, this shows the context-specific nature of institutional influences. In sum, the results highlight that the interaction of internal financial conditions and external institutional environments shapes corporate cash holding decisions in Pakistan. There is a dynamic framework of integrating firm-level determinants with country-level governance through this study which contributes to the corporate finance literature and offers insight for managers, investors, and policymakers in the emerging markets.

Keywords: *Corporate Cash Holdings, Liquidity, Tangibility, Country-Level Governance*

1. Introduction

The issue of corporate cash holdings has become one of the most important topics in corporate finance, especially in the case of developing countries where there are financial frictions, poor institutions, and unpredictable economies that greatly influence financial decisions made by companies. The cash and cash equivalents are available for immediate use, allowing companies to meet their everyday needs, protect themselves against uncertainties, and take advantage of investment opportunities quickly without the cost of external financing. Thus, the question of determining the corporate cash holdings has been an area of great interest in both theoretical and empirical research. The literature is vast, but the factors affecting the cash holding behavior are still dependent on the context and very much not understood, especially in countries with weak governance and unsophisticated financial networks.

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. Companies with more access to assets that can be used as collateral are



expected to depend less on internal liquidity and therefore hold less cash. On the contrary, the precautionary motive, which is based on Keynesian liquidity preference and then built into corporate finance literature, argues that there uncertainty and financing constraints and the companies would then build up larger cash reserves to be able to absorb these negative shocks. The third approach of agency theory stresses management control over free cash flow and it states that lack of monitoring and poor governance may lead to managers holding cash for personal use rather than for investment in projects with the maximum return.

Several studies in developed markets have substantiated the assertions made by the theorists and have shown that factors such as asset tangibility, liquidity, leverage, and growth opportunities play a decisive role in shaping cash holding policies. However, the findings from emerging markets are sometimes contradictory due to the different structures of financial systems, the quality of institutions and regulatory enforcement. In such markets, companies face higher transaction costs, have limited access to outside finance, and are more vulnerable to political and economic instability (Ali, 2015). Therefore, the conclusions drawn from advanced economies cannot, without careful empirical validation, be directly applied to emerging markets.

Pakistan represents a particularly suitable country to examine corporate cash holding behavior. Being a developing country, Pakistan is experiencing macroeconomic uncertainty in its corporate sector, and such uncertainties consist of inflation, heterogeneous exchange rates, political instability, and restrictions on the supply of energy (Ali & Rehman, 2015). In addition, the financial system is dominated by one or two banks, and it is quite shallow which makes it difficult for companies to raise money through capital markets. Non-financial companies, in particular, experience a lot of friction while trying to access finance, and thus, they rely mostly on internally generated funds for working capital and long-term investment. These limitations highlight the cash management issue and make the cash holdings of the companies a decisive factor for firm's survival and sustainability.

Institutional and governance environment is another aspect that besides firm-level characteristics, has a significant impact on the corporate financial decisions (Ali & Ahmad, 2016). The governance quality of a country determines how well the investors are protected, how well the enforcement of contracts is, how efficient regulations are, and how stable the political conditions are; all these factors influence the companies' financial access and create their retention of cash incentives. In countries which are having a strong governance framework, the companies might be in a more predictable environment which would lessen the need for cash reserves created for fear of unforeseen circumstances. On the other hand, poor governance, corruption, and political instability might make it more difficult for companies to forecast the future, and the risk of expropriation increases, thus prompting companies to adopt conservative liquidity policies. The question of national governance quality influencing corporate cash holdings was mainly left untouched in the case of Pakistan, although it is very critical to consider the governance quality when analyzing corporate cash holdings (Siddique et al., 2025).

This research intends to fill the gap by looking at the combined effect of liquidity and asset tangibility—two financial characteristics that are specific to the firms and the quality of governance at the country level on the corporate cash holdings of non-financial firms that are listed on the Pakistan Stock Exchange (PSX). In contrast to previous studies that often examine only internal factors, this study introduces macro-institutional factors by using the Worldwide Governance Indicators (WGI) framework. The governance quality is measured through six aspects: voice and accountability, government effectiveness, political stability and absence of violence, regulatory quality, rule of law, and control of corruption. These indicators show the wider institutional environment in which the firms operate and provide a national governance measure that is comprehensive.



From a methodological standpoint, the habilitation research relies heavily on the dynamic panel data approach through the system generalized method of moments (System GMM) estimator. The corporate cash holdings concept itself has a strong persistence through time, and applying traditional estimation techniques can lead to problems of endogeneity which include among others, reverse causality and omitted variable bias. By using lagged dependent variables and proper instruments System GMM ensures that the estimates are still reliable even under these econometric concerns. The analysis covers a balanced panel of non-financial firms from 2012 to 2023 which is a period characterized by a lot of economic and political changes including the COVID-19 shock, thus, the findings being robust and relevant.

This study makes a number of important contributions to the existing literature. To begin with, it enlarges the area of corporate cash holdings research by new evidence from Pakistan, an emerging market with different institutional features that is not so much in the focus of research. Secondly, by making the inclusion of country-level governance indicators explicit the study manages to connect the worlds of corporate finance and institutional economics more tightly, thus, offering wider understanding of firms' liquidity decisions in terms of a basic explanation. Thirdly, the application of a dynamic GMM framework sets a static modeling approach back and provides more reliable inferences with regard to persistence and the issue of endogeneity. Moreover, the findings help corporate managers, investors, and policymakers to understand how internal financial policies and external governance conditions affect corporate liquidity behavior thus, giving practical implications to the stakeholders.

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.

2. Literature Review

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. Miller and Orr (1966) proposed earlier and devised theoretical arguments indicating that cash secures firms, subject to changing compromise between the exigencies of transactions, obviously when they need to immediately pay for either acquired goods, raw material, or services, or when subject to unfavorable interest rates and payment terms. Later studies, following the introduction of econometrics to the field of decision science, have considered, among other issues, that the major factors affecting the cash-holding decision are operating needs, financing hurdles, governance mechanisms, and institutional visions.

2.1. Firm-Level Determinants of Corporate Cash Holdings

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; Zahid 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; Singh & Misra, 2019; Longston et al., 2025).

However, this relationship is not universal. 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-accrual 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; Kanwal et al., 2025).

Liquidity is, rather than instead of, a complement to cash holding in emerging markets where external funding is expensive and unreliable. Firms could decide to retain increased cash balances to protect themselves from macroeconomic volatility and constraints in financing, because of their improved liquidity position (Al-Najjar, 2013; Altaf et al., 2024; Nasir et al., 2025). This particular precautionary behavior becomes highly evident among non-financial firms, not have fruitful funding options at hand, which proves the importance of liquidity in fostering cash preservation.

2.2. Agency Considerations and Cash Holding Behavior

Agency theory, in addition to operational incentives, offers a crucial perspective to explain corporate cash holdings. According to Jensen's (1986) free cash flow hypothesis, excess cash may lead to more severe agency problems by providing managers with the option to undertake negative net present value projects or to consume private benefits. In actuality, a number of empirical pieces point out that issues in corporate governance seem to garner higher cash holdings, thereby signifying a cover for managerial opportunism and ineffective monitoring (Drobetz & Grüninger, 2007; Bates et al., 2009; Fadzil, 2021; Mate, 2022).

Good governance can mitigate agency problems and influence firms' liquidity policies. Effective monitoring, shareholder protection, and transparent regulatory frameworks reduce managerial discretion over cash resources, potentially leading to more efficient cash management. While much of agency-based literature concentrates only on firm-level governance mechanisms like board composition or ownership structure, hardly any studies have examined governance at the national level, notably in the emerging economies.

2.3. Country-Level Governance and Institutional Environment

The importance of institutional quality and country-level governance in the shaping of corporate financial behavior has been attracting increasing attention from researchers. Governance frameworks define the security of property rights, the enforcement of contracts, regulatory efficiency, and most critically, political stability, all of which influence a firm's availability of external finance and its need to hold onto cash. Several studies, with the Worldwide Governance Indicators (WGI) data as a



reference point, find that firms registered in countries where the predominant governance characteristics are stronger hold far lower levels of precautionary cash levels as a result of lesser uncertainty and improved investor protection (Kaufmann et al., 2011; Feyisa et al., 2022; Prica & Bjelic, 2025).

However, the evidence showing the efficacy of the relationship between governance and cash holdings is not supported by all empirical studies. Some believe good governance triggers cash holding through the retention of cash for long-term investments for strategic purposes (Farooque et al., 2022; Zang, 2022). The contrary view is that one may argue that the absence of governance and political instability may augment the extent of cash hoardings created to self-insure against the sudden shocks from the institutional setup (Guizani, 2017; Namadi, 2023; Saxena & Sahoo, 2024; Rodriguez, 2024). Such contradictory views regarding the governance–cash holding relationship warrant country-specific studies in such scenarios where governance quality fluctuates significantly over time.

In this context, Pakistan is a pretty convincing illustration. With ever-present challenges of political instability, traditional uncertainty, and corruption, most of these say these particular attributes escalate a firm's exposure to institutional risks. Yet, substantial research examining how a nation's governance quality impacts corporate cash holdings is absent in Pakistan. Existing studies mostly focus on firm-level determinants or use static estimation techniques, not recognizing the dynamic aspects of cash-holding behavior and the potential endogeneity between governance and financial decision-making.

2.4. Research Gap and Motivation

The literature yields its wisdom to a great extent about the determinants on the firm level of what moves the cash holdings of a company. However, three elementary gaps remain. Firstly, evidence, particularly from emerging markets like Pakistan, is scattered and scant. Secondly, depending on governance at the firm level and ignoring holistic governance measures at the country level is usually obsolete in cash holding models. Lastly, many existing analyses rely on static economic techniques that do not deal well with the persistence and endogeneity of cash-holding behavior.

The study aims to fill these gaps in the literature by exploring the static and dynamic impacts of firm-specific financial characteristics and country-level governance on the cash holding positions of nonfinancial firms in Pakistan. With the use of a System GMM framework, together with a multidimensional governance index based on the WGI, a richer and more contextually situated analysis of corporate liquidity decisions is offered in an emerging market setting.

3. Hypothesis Development

Corporate cash holding decisions are based on a variety of firm-specific financial characteristics and the wider institutional settings within which they operate. This project employs trade-off theory, the precautionary motive for liquidity, and agency theories to forward testable hypotheses regarding the asset tangibility, liquidity, and governance with respect to cash held by corporations in their coffers.

3.1. Tangibility and Corporate Cash Holdings

Asset Tangibility indicates the degree to which physical assets, like land, buildings, and machinery, make up the total assets. Tangible assets increase a firm's borrowing power according to the trade-off theory since the assets can be a loan security, and as a result, external financing constraints are relieved. Companies with a lot of tangible assets can have an edge in borrowing and are not that much into internal cash needs. Thus, the companies are not in such a pressing need for a cash reserve for precautionary purposes. Most of the empirical evidence fully backs this idea up, illustrating a direct association between asset tangibility and corporate cash holdings that is the same in all institutional environments. Namely, companies having high fixed assets would rather get money through collateralized loans than save it. But, emerging markets could possibly affect this the most because

their credit sources outside collateral are very scarce, and collateral stands right in the middle of credit assignment. In Pakistan, which is a country with less advanced financial markets and at the same time an inability to adequately protect creditors, tangible assets are the major source to curb the difficulties of funding. Therefore, it is expected that companies with high tangibility would decrease their liquidity buffer through cash holdings by a noticeable amount.

Based on these theoretical considerations and empirical findings, the following hypothesis is proposed:

H1: Asset tangibility has a significant and negative impact on corporate cash holdings.

3.2. Liquidity and Corporate Cash Holdings

Liquidity, as a concept, conveys the extent to which a company can handle its short-term debts and it is usually estimated by the ratio of current assets to current liabilities. Essentially, cash holdings can be determined by liquidity in two different ways but the effects are contradictory. In the one respect, liquid assets may be considered as an alternative to cash thus they will decrease the necessity of firms to have cash as a buffer. On the other hand, firms that are very liquid hold a position that is perceived to be least risky and they may adopt a more conservative approach in cash management by keeping cash reserves higher through precautionary motives.

In new markets, the fear of the unknown is always there. The companies are facing up to macroeconomic volatility, not having much access to the capital markets, and the high cost of transactions for getting the external finance at the same time. In such situations, liquidity and cash holdings do not have to be exclusive – they can go hand in hand. Companies that have very high liquidity can continue to hang on to their extra cash in a very secure and conservative financial strategy, acting on the lines of ‘operational continuity’ and ‘financial flexibility.’

The liquidity and cash holding ratio is one of the most frequently studied topics in developing economies through empirical studies, and the results most of the time land on the side of the financially cautious firms, which have the double maintenance of liquid assets and cash reserves at the same time. Since the economic situation in Pakistan is very shaky and at the same time there is still no proper financial arrangement to cover the needs of non-financial companies, liquid assets are believed to increase the amount of cash held by the companies.

Accordingly, the following hypothesis is formulated:

H2: Liquidity has a significant and positive impact on corporate cash holdings.

3.3. Country-Level Governance and Corporate Cash Holdings

Corporate cash retention patterns are influenced by the institutional and governance climate at the national level, among other things, such as firm-level financial characteristics. According to agency theory and institutional economics, good governance quality sets the tone for companies in terms of uncertainty exposure, expropriation risk, and enforcement of contracts, all of which, in turn, provoke different liquidity management choices. i.e., Effective regulation, political stability, rule of law, and control of corruption constitute the pillars of the most regulatory governance frameworks, which in turn reduce uncertainty and improve investor protection, thus reducing the necessity of firms to hold excessive precautionary cash.

On the other hand, in areas where there is weak governance or governance is not effective, political hazard, unexpected regulatory changes, and conflicts of interest are more likely to be higher, therefore, making the firms resort to cash hoarding to protect themselves and be able to take care of institutional failures. The relationship between cash holding and governance quality is thereby ambivalent in theory and probably contingent on the context. There are studies that point to the fact that good governance facilitates the likelihood of efficient cash flow management and, in that way, comfortably and productively retaining earnings for investment, while there are others who view poor governance as a denominator of a hoarder of cash due to uncertainty.

Quality of governance, in the Pakistani environment, fluctuates greatly during different periods and over diverse institutional dimensions. Political instability, regulatory inefficiencies, and corruption may have a significant impact on corporate finance's behavior. The study uses a composite Governance Index developed from the Worldwide Governance Indicators to portray the multi-dimensional quality of governance, which includes voice and accountability, government effectiveness, political stability, regulatory quality, the rule of law, and combating corruption. The strategy allows for a thorough evaluation of how the quality of governance in a country directly affects the decisions taken by the company regarding the cash it holds.

Grounding its work in institutional theory and emerging market evidence, this study postulates that the enhancement of the government's quality at the country level would lessen the uncertainty and, in turn, they will affect the firms' cash holding behavior. Thus, the following hypothesis is proposed: **H3:** Country-level governance quality has a significant impact on corporate cash holdings.

4. Methodology and Model Specification

4.1. Research Design and Sample Selection

The research is using a quantitative explanatory research design methodology to find out the reasons why the corporation might hold cash and in what amounts, in an emerging market. The empirical study is based on non-financial firms whose stocks are traded on the Pakistan Stock Exchange (PSX). The financial sector was not considered as part of the study as it is a separate entity and has a different structure when it comes to regulations, capital, and the fight for liquidity. This could influence the cash holding behavior and, therefore, it is best to consider and keep it out of the study as a whole.

The final sample is made up of 100 firms that are not in the financial sector and that were analyzed over twelve years from 2012 to 2023. At the end of the day, the panel is balanced. For a company to be admitted, it must have all the financial and governance-related data for the whole period of the study. Even though the cohort method is panelized, it will also restrict the sample to the most consistent companies; nonetheless, it also simplifies the adaptation of dynamic panel estimation methods and promotes data consistency. This is a compromise that is frequently made in studies of the corporate world when the GMM technique is employed, and it is also recognized as a methodological flaw.

Firm-level financial data are obtained primarily from Wharton Research Data Services (WRDS) and supplemented with manually collected information from firms' annual reports where necessary. Country-level governance data are sourced from the Worldwide Governance Indicators (WGI) database published by the World Bank.

5. Variable Measurement

5.1. Dependent Variable

Corporate Cash Holdings (CCC)

The corporate cash holdings can be calculated as the ratio of cash and the like to total assets. 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.

5.2. Independent Variables

Tangibility (TANG)

Another way to determine the amount of money the company can easily convert into cash, and the major indicator of the company's short-term financial situation, the corporate cash holdings can be computed as the ratio of cash and cash equivalents to total assets. This indicator is well-known in the corporate financial literature because it offers one of the clearest pictures of a company's financial health.

Liquidity (LIQ)

Evaluate in this way: measure how much money a company has in terms of current assets to cover its current liabilities effectively. In essence, a company's short-term debt paying ability and working capital needs are the two factors behind the current ratio.

Country-Level Governance Quality (GI)

Country-level governance is captured through a composite Governance Index (GI) constructed using Principal Component Analysis (PCA). The index is based on six dimensions of the Worldwide Governance Indicators:

- (i) Control of Corruption,
- (ii) Government Effectiveness,
- (iii) Political Stability and Absence of Violence,
- (iv) Regulatory Quality,
- (v) Rule of Law, and
- (vi) Voice and Accountability.

PCA is employed to reduce dimensionality, address multicollinearity among governance indicators, and extract the common institutional component that best represents overall governance quality. The first principal component, which explains the largest proportion of variance, is retained as the governance index.

5.3. Econometric 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. Not considering this fact will lead to estimates that are not accurate and are obtained in a quite unreliable way. Accordingly, the baseline empirical model is specified as a dynamic panel regression:

$$CCC_{i,t} = \alpha + \rho CCC_{i,t-1} + \beta_1 TANG_{i,t} + \beta_2 LIQ_{i,t} + \beta_3 GI_t + \varepsilon_{i,t}$$

where $CCC_{i,t}$ denotes corporate cash holdings of firm i in year t , $CCC_{i,t-1}$ represents the lagged dependent variable, $TANG_{i,t}$ denotes asset tangibility, $LIQ_{i,t}$ captures liquidity, GI_t represents country-level governance quality, and $\varepsilon_{i,t}$ is the idiosyncratic error term.

5.4. Endogeneity and Estimation Technique

The cash holdings model is likely to be plagued by various sources of endogeneity. To begin with, companies may have cash holdings that are influenced by other variables, making it difficult to separate cash as a genuine determinant of liquidity. Second, the model may be afflicted by the bias created by either unaccounted-for company-specific characteristics or patterns that are unobservable; this is also known as omitted variable bias. Third, there is a breakdown of the relationship between a dependent variable and its lagged value, which makes pooled Ordinary Least Squares (OLS) and fixed effects estimators inconsistent.

For these inputs, the research team has decided to go with the System Generalized Methods of Moments (System GMM) approach, a method introduced by Arellano and Bover and Blundell and Bond, who initially developed GMM. This instrument utilizes equations both in the first differences and in the levels while using the lagged values of the endogenous variables as the variables. GMM that applies this method is more efficient compared to the difference GMM, especially in the case of data panels, which have a modest time dimension and the variables that are persistent.

To maintain more exogeneity, all firm-level variables are thought of as endogenous to the model so that the lagged and difference levels of the same variables can be used as the instruments that are incorporated within the data structure. The collapse of the instrument matrix and the cautious limitation of lag depth are measures that are taken to control the instrument proliferation that might otherwise reduce the Hansen test's efficiency and lead to the endogenous variables being overfitted.

5.5. Diagnostic and Validity Tests

Several diagnostic tests are used to evaluate the robustness of the System GMM estimation. The first test done is the Arellano–Bond test for serial correlation to check if there is a presence of first-order and second-order autocorrelation in the differenced residuals. Even with the first-order correlation, the model is still valid, but there must be a second-order correlation. Second, the Hansen J-test is used to determine the validity of the instrument variable and if it is over-identified. Statistical insignificance of the Hansen statistic reveals that the instruments are indeed exogenous with the accurate specification. Lastly, the relevance of the cash holdings persistence parameter and the magnitude of the estimated coefficients from an economic standpoint are looked into to see whether it aligns with the theoretical expectations and the previous empirical research findings.

5.6. Methodological Contribution

This approach the study offers, is strong in methodology, problem, and data. It employs the mentioned indexes and other important ones and their aspects with the specified existing statistics and research results. The idea here is that the consistency in processes is needed to expect that the implemented procedures result in a similar output. Theoretically, the control group approach does not really match the matching approach when one assumes that the probability distribution of the matched control group member of a treatment group entity is the same throughout the entire treatment group, a different probability of being chosen into a control group can nevertheless Affect the results, i.e., endogeneity may still be present even though matching is the method used.

6. Results and Analysis

6.1. Descriptive Statistics

Table 2 contains the descriptive statistics of all the variables that were part of the empirical analysis. The corporate cash holdings average about 13% of the total assets, which means that non-financial companies in the area keep a good amount of liquidity along with their assets. The quantity is somewhat comparable to the evidence in other emerging markets, and it shows firms' necessity of operational flexibility, hence the opportunity cost.

The mean value of there has to be a sentence correction for one of the variables. Excluding cash, inventories, and receivables from the calculation, fixed assets still account for a little more than half of total assets on average. This somewhat high level of tangibility proves the capital-intensive character of many non-financial firms in Pakistan and the important role of collateral in funding from outside sources. The dispersion of liquidity, as measured by the current ratio, exhibits a wide range, with a mean of 2.43, which means that there are various working capital management practices used by firms.

The governance quality indicators depict principally adverse average values, implying the state of Pakistan as weaker regarding institutions during the span of the sample. The factor of Political stability came out to get the smallest mean value, thus indicating the existence of constant uncertainty in the situation that companies might be in. The continuous rise of the mean value in Economic conditions with respect to the operating environments is also an important factor for companies to deal with their cash-related practices and, as a consequence, their performances.

Table 1: Descriptive Statistics

	CCC	TANG	LIQ	GI	CC	GE	PV	RL	RQ	VA
Mean	0.13	0.51	2.43	-0.51	-0.82	-0.69	-2.16	-0.75	-0.73	-0.81
Min.	0.00	0.01	0.04	-2.41	-1.07	-0.80	-2.68	-0.88	-0.89	-0.96
Max.	0.63	0.96	13.75	3.00	-0.44	-0.44	-1.71	-0.61	-0.61	-0.69
Std. Dev.	0.16	0.24	2.52	1.41	0.16	0.09	0.29	0.07	0.09	0.09

6.2. Correlation Analysis

The correlation matrix makes apparent various significant relationships. The higher the corporate cash holdings, the higher the liquidity, and the lower the tangibility, with the signs of these relationships providing evidence in favor of the trade-off and precautionary theories. Liquidity and cash are not alternatives, and instead, they are expected to go together as the liquidity ratios of the firms with a similar correlation to cash are stronger. On the other hand, firms with more tangibility assets might be less cash-prone, which is the justification for the asset-based financing theory. Concerning the governance indicators, the most notable correlations with cash holdings are government effectiveness on one side and political stability on the other side. Governance variables have too high correlations to be used separately so it is reasonable to combine them into a single governance index that would be less correlated with the multicollinearities and more inclined to capture the true institutional dimension.

Table 2: presents the correlation coefficients between variables.

	CCC	TANG	LIQ	GI	CC	GE	PV	RL
CCC	1.00							
TANG	-.21**	1.00						
LIQ	.23**	-.15**	1.00					
GI	.08	-.02	.07	1.00				
CC	.03	-.01	.05	.98**	1.00			
GE	.32**	-.11*	.28**	.67**	.66**	1.00		
PV	-.41**	.18**	-.35**	-.72**	-.71**	-.78**	1.00	
RL	.05	-.03	.04	.95**	.95**	.63**	-.69**	1.00
RQ	.06	-.04	.06	.96**	.95**	.64**	-.70**	.97**
VA	.07	-.05	.07	.97**	.96**	.65**	-.71**	.98**
	RQ	VA						
RQ	1.00							
VA	.98**	1.00						

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

6.3. Dynamic GMM Estimation Results

Table 3 shows the outcomes of the System GMM estimation. The lagged dependent variable gets a positive coefficient and is highly significant. It actually shows that cash holdings in companies are highly persistent. The idea is that despite there are seasonal changes, firms' cash management policies are pretty much consistent over time. Most probably, the firms may be moving at a very slow pace but still. Therefore, persistence is in line with dynamic liquidity management models and supports the employment of a dynamic estimation framework.

6.4. Tangibility and Cash Holdings

Having assets that are tangible are related to less money being held by companies, and this connection is statistically significant and negative. Therefore, this relation confirms Hypothesis H1 and goes to show that liquidity trade-off theory is the same with corporate cash. If companies have higher percentages of tangible assets, they can resort to using these assets as security to get outside capital with the consequence of reducing their dependence on their own cash reserves. In particular, for the case of Pakistan where the financing without collaterals is rare and actually the player in the credit

market who has the collateral is the one having credit, this impact is much higher. The outcome is in agreement with other similar studies in the case of developing countries, and it further emphasizes the fact that the structure of assets is of utmost importance in making liquidity policy.

Table 3: presents the results from the System GMM estimation

Variables	Co-efficient	S. E	Z-Stat	P-Value
CCC (-1)	0.45***	0.05	9.00	< .001
TANG	-0.32***	0.07	-4.57	< .001
LIQ	0.18***	0.04	4.50	< .001
GI	0.06	0.04	1.50	.13
CC	0.03	0.05	0.60	.55
GE	0.24***	0.06	4.00	< .001
PV	-0.28***	0.05	-5.60	< .001
RL	0.07	0.05	1.40	.16
RQ	0.08	0.05	1.60	.11
VA	0.09*	0.04	2.25	.02
Constant	0.12	0.08	1.50	.13
AR (1)	z = -3.21, (P-value 0.001)			
AR (2)	1.23, (P-value 0.22)			
No. of Instruments	318			
Hansen P-Value	$\chi^2 = 14.56$ (P-value 0.41)			

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

6.5.Liquidity and Cash Holdings

Liquidity is a positive and significant factor in corporate cash reserves, and this adds credibility to Hypothesis H2. The result implies that companies with a stronger need for short-term money will show higher cash balances. Consequently, besides acting as cash substitutes, liquid assets turn out to be stronger allies of cash when both are put together in a setting of macroeconomic volatility and financing restrictions. Such company behavior is typical of the precautionary motive, where companies keep many layers of liquidity as a buffer against the unknown. This finding points to the fact that non-financial firms in Pakistan tend to play it safe on the financial front, and that conclusion is supported by the evidence coming from other developing countries.

6.6.Governance Quality and Cash Holdings

The findings related to governance are presented through a very detailed analysis that examines the relationship between institutional quality and corporate cash reserves. The consolidated governance index revealed that its effect is not statistically significant. This means that the quality of governance, when looking at it in an aggregated way, may not have the same effect on all of the institutional dimensions. However, once the individual governance indicators have been observed, it is found that the government effectiveness and voice and accountability have a significant and positive relation to the cash holdings. But political stability is seen as a strong negative factor instead.

The positive influence of the performance of public administration suggests that companies that work in more transparent and less bureaucratic contexts may be more open to saving money for strategic goals, e.g., future investment and growth. A better rule of law could make property rights and administrative leaders' protection more predictable and so reduce the risk of holding any financial assets. Likewise, the employee share of the company's future accountability might boost the overall trust in the institution, making it more likely for companies to keep cash buffers and not be taken by surprise.

Political stability and cash holdings have a negative association, and it may imply that companies tend to have less cash on hand in more politically stable situations because their precautionary needs go down. In another vein, during the years of political instability, companies might prefer to fast-use or fast-move the cash rather than to hold it, thus reflecting the standpoint of the expropriation risk or currency depreciations. This new evidence from the opposite side thus enables us to see how governance factors are multifaceted and market-specific components to be considered for the corporate financing decisions in the emerging markets' case.

6.7. Diagnostic Tests and Model Validity

The diagnosis suggests that the System GMM estimates are valid. The Arellano–Bond test shows the existence of up to first-order serial correlation, but not past the second order and hence supports the model. The Hansen test for over-identified restrictions shows no statistical importance, indicating that the instruments are valid and not correlated with the error term. Also, the number of instruments is kept within the acceptable range, so the problem of proliferation is at least partially solved.

6.8. Discussion and Theoretical Implications

The results, taken as a whole, give very strong empirical evidence supporting the trade-off theory and the precautionary motive for corporate cash holdings in Pakistan. Asset tangibility is a factor that decreases the need for cash by means of financing that is based on the given asset, while liquidity is a factor that increases cash retention under the umbrella of a conservative financial strategy. On the other hand, the governance results are from the relationships of the agency theory and institutional theory on one side and cash holding on the other side. It generally shows that not all the governance aspects are equally responsible for the cash holdings. The specific institutional features, for example, such as government effectiveness and political stability, are the ones ultimately affecting the liquidity decisions of the firms.

These findings draw attention to the need to associate the financial characteristics of the firm with the macro-institutional factors when examining cash holdings of the corporation in the emerging markets. The neglecting of the institutional setting might distort or may affect the viewpoints on the firms' financial performance.

7. Conclusion

The primary objective of this research is to analyze corporate cash positions of non-financial organizations registered in the Pakistan Stock Exchange and the factors that cause those positions. The research combines corporate cash positions of a firm as per the financial statements of the firm and the quality of the governance environment prevailing in the country where the firm is located. This research has the scope of 2012-2013, and the methods were Dynamic System GMM, as well as persistence and endogeneity that come with corporate liquidity decisions. The results show that the control of cash by the firms is highly under their power, and that the cash holding policies of the firms are steady and deterministically dependent on each other all the time.

Following the trade-off theory, I have found the tangibility of the asset to have a strong negative impact on cash reserves, which means companies with more collateralizable assets are less reliant on their own liquidity due to better access to external financing. At the same time, the tightness of



liquidity has a significant and positive relation with cash holding, which matches the precautionary motive of firms to have a portfolio of layers of liquidity to anticipate uncertain times and to have alternate sources of financing. The quality of governance results show that it really does matter, even if the effects are varied in their forms. Though the overall governance does not have a consistent effect, certain dimensions, such as government effectiveness and voice and accountability, also contribute positively to cash holdings and political stability, even more so when governance quality is low.

The findings, when aggregated, point out a combination of factors from within and outside that determine corporate cash holding predilection in Pakistan. It is suggested that the corporate finance theories, particularly in the case of emerging markets, should consider institutional realities.

7.1. Contributions of the Study

This research paper contributes a lot to the finance literature in companies.

First of all, the new empirical data comes from an under-researched and challenging environment, the Pakistani market, which has both constant macroeconomic and institutional challenges. The study is of the nature of non-financial firms; it can help immensely in understanding the management of money in the industries that face the biggest problems related to financing, and for which capital markets are not available to the full extent.

Secondly, it is a very theoretical contribution as it is making an empirical integration of the determinants at the level of a firm with the governance quality of the country. The previous research mainly focused on internal financial determinants that influence the position of the company sector. However, the study makes the case that the external factors, like the government effectiveness and the political stability of the country, also have an effect on the same, and in most cases, it goes with the internal factors. The economic impact of such a case is demonstrated to be significant. In this way, the study makes a link between the corporate finance theory and the institutional economics and agency theory.

The study also makes a very important methodological point by applying a dynamic System GMM estimator that captures the impact of persistence, unobservable heterogeneity, and endogeneity. With this, one enhances the latent constraints and, therefore, gets better conclusions on the issues regarding a firm's cash assets from the developing country's perspective.

Moreover, the results complement the larger conversation on the cash-holding motives issue by indicating through evidence that the quality of governance affects not just the magnitude but also the very rationale behind holding cash.

7.2. Policy Implications

The results of this study have highly significant implications for corporate managers, investors, and policymakers.

In the case of corporate managers, high levels of cash are determined to be optimal as long as different types of assets, e.g., current and fixed assets, are in a proportion, i.e., the asset model, and the firm has liquidity in the right places and in the right quantities. Companies that lack enough guarantees and are more exposed to macroeconomic risk should have a conservative policy of cash holdings that will serve as a cushion for downside risks, whereas those with substantial tangible asset bases have the prospects of the growth of their enterprises by directing the excess cash accumulated into the lucrative areas of the firm.

For investors and financial analysts, the results show that cash holdings need to be analyzed in both financial terms and legal aspects of the entity. Large cash amounts in the company's balance sheet are more indicative of the high potential but risky markets available for multidirectional trading than of the low efficiency of the management of the company.

When it comes to politicians and their positions supporting legislation, the research rev-using the



demand for better governance quality, i.e., government productivity and regulatory transparency, to help in the positive effect on corporate financial actions. Making the institutions more secure will lower the chances of wrong decisions, boost investor morale, and help companies manage their money more efficiently. The good side of governance improvements might extend beyond that and see lower entity dependence on precautionary cash buffers; therefore, the cash flow to investment and the advancement of economic growth would be the natural outcomes.

7.3. Limitations

This study has certain limitations notwithstanding its impacts that do advocate for the real user attention. One of these limitations relates to the research being done on non-monetarily oriented corporations located within Pakistan which may cause the discovery to remain highly specific to the region of the origin of the study. Being another, the utilization of a balanced panel, though methodically right for dynamic estimation, could lead to an introduction of survivorship bias by leaving out the firms that do not of having complete data histories. The third limitation is the tracking of governance quality through the use of national-level indicators that could fairly partially picture the firm-level governance mechanisms like board structuring, ownership concentration, and managerial incentives.

Moreover, the triumph of the System GMM method in reducing endogeneity issues does not mean that the results are immune to changes in the choice of the specification and instrument types, which is a typical problem in dynamic panel modeling.

7.4. Directions for Future Research

There are a number of ways in which further research can build on this study. To begin with, if the analysis were to be expanded to cross-country or regional samples, that would make it possible to compare the governance effects in different types of institutions. Additionally, the process of integrating firm-specific governance variables into the database of country-level indicators would uncover the links between internal and external governance systems more adeptly. It would be a good idea for researchers to look at governance and liquidity hand-in-hand in the form of non-linear or asymmetric relationships, especially during times of economic or political crises. Lastly, exploring the relationship between a firm's cash holdings and its business performance, investment efficiency, or risk preference would make even the most complex aspects of the strategic role of corporate liquidity in emerging markets more comprehensible.

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