KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS(IDL)

EFFECT OF CASH HOLDINGS ON FIRM PERFORMANCE:

THE ROLE OF BOARD INDEPENDENCE AND INSTITUTIONAL OWNERSHIP

BY

Richard Annan

INDEX NO.: PG9368121

STUDENT ID: 20854110

A Thesis Submitted to the Department of Accounting and Finance, Kwame Nkrumah University of Science and Technology, In Partial Fulfilment of the requirements for the degree of

MASTER OF SCIENCE IN ACCOUNTING AND FINANCE

School of Business Administration, KNUST

College of Art and Social Science

NOVEMBER, 2023

DECLARATION

I hereby declare that this submission is my own work towards the award of the MSc Accounting and Finance and that, to the best of my knowledge, it contains no material previously by another person or any material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

Richard Annan …..…… …..……

(PG) Signature Date

Certified by:

DR. Daniel Domeher …… ……...

(Supervisor) Signature Date

Certified by:

Prof. Kingsley Opoku Appiah …… ...…….

(Head of Department) Signature Date

DEDICATION

I dedicate this thesis work to God almighty who has been the source of my strength. To my Supervisor, Dr. Daniel Domeher, thank you for the immense support and encouragement that has helped me to come this far.

To my families, especially my wife Gloria Ahenkorah, my daughter Margaret Adwoa Annan and love ones, thanks for always covering my back.

KNUST

ACKNOWLEDGMENT

Am very thankful to my supervisor Dr. Daniel Domeher for patiently and thoroughly guiding me throughout this thesis work. To all the lectures in the MSC. Accounting and Finance (IDL) of Kwame Nkrumah University of Science and Technology, Kumasi, my heartfelt gratitude to you all for your mentorship in varied ways, without which I would not have been whom I am today.

KNUST

ABSTRACT

This study examines the effect of cash holdings on firm performance with corporate governance as moderating variable. The time horizon is twelve (12) years from 2010 to 2021, involving eighteen (18) non-financial firms. The study is quantitative, and panel regression is employed to analyse the data. The study finds that cash holdings has a positive relationship with firm performance. The study further finds that board independence positively moderates the relationship between cash holdings and firm performance. The study also finds that ownership structure negatively moderates the relationship that exists between cash holdings and firm performance. This study recommends that Non-financial firms optimise their cash management strategies for long-term growth. They can achieve this by conducting a thorough analysis of the company's cash flows, considering both inflows and outflows; determining the optimal level of cash reserves required to meet operational needs; investing in growth initiatives; and navigating economic uncertainties. Consider allocating cash towards research and development, market expansion, technology upgrades, and other initiatives that enhance competitive advantage and firm performance. By optimising their cash management strategy, firms can ensure that they have the right amount of cash on hand to meet their short-term needs while also investing in growth initiatives that will benefit the company in the long term.

TABLE OF CONTENT

DECLARATION II

DEDICATION III

ACKNOWLEDGMENT IV

ABSTRACT V

TABLE OF CONTENT VI

LIST OF TABLES IX

LIST OF FIGURES X

CHAPTER ONE 1

INTRODUCTION 1

1.1 Background of the Study 1

1.2 Problem Statement 3

1.3 Aims and Objectives 4

1.4 Research Questions 5

1.5 Scope and Limitation of the Study 5

1.6 Overview of Methodology 5

1.7 Significance of the Study 6

1.8 Organization of Study 6

CHAPTER TWO 8

LITERATURE REVIEW 8

2.1 Introduction 8

2.2 Conceptual Review 8

2.2.1 Cash Holdings 8

2.2.1.1 Keynesian Motives for Holding Cash 9

2.2.2 Corporate Governance 10

2.2.2.1 Board Independence 12

2.2.2.2 Institutional Ownership 14

2.2.3 Financial Performance 16

2.3 Theoretical Review 17

2.3.1 Pecking Order Theory 17

2.3.2 Free Cash Flow Theory 18

2.2.3 Stewardship Theory 19

2.4 Empirical Review 21

2.5 Conceptual Framework 25

CHAPTER THREE 27

RESEARCH METHODOLOGY 27

3.1 Introduction 27

3.2 Research Design 27

3.3 Population 27

3.4 Sample Size and Sampling Technique 28

3.5 Data Collection Methods 29

3.6 Data Analysis 29

3.6.1 Diagnostic Tests 30

3.6.1.1 Multicollinearity 30

3.6.1.2 Autocorrelation 31

3.6.1.3 Heteroskedasticity 31

3.7 Model Specification 32

3.8 Variables and Measurement 32

CHAPTER FOUR 34

RESULTS AND DISCUSSIONS 34

4.1 Introduction 34

4.2 Descriptive Statistics 34

4.3 Correlation Matrix 37

4.4 Hausman Test 39

4.5 Diagnostic Test 39

4.6 Presentation of Results 41

4.6.1 Cash Holdings and Firm Performance 41

4.6.2 Board Independence, Cash Holdings and Firm Performance 43

4.6.3 Institutional Ownership Cash Holdings and Firm Performance.....46

CHAPTER FIVE 49

SUMMARY OF FINDINGS, RECOMMENDATION AND CONCLUSION .49

5.1 Introduction 49

5.2 Summary of Findings 49

5.3 Conclusion.....50

5.4 Recommendation.....50

5.5 Recommendation for Further Studies.....52

Reference.....53

APPENDIX 58

LIST OF TABLES

Table 3.1 Variables and measurement 33

Table 4.1: Descriptive statistics 35

Table 4.2: Correlation matrix 38

Table 4.3: Hausman test 39

Table 4.4: Diagnostic tests 40

Table 4.5: Cash holdings and firm performance 42

Table 4.6: Board independence, cash holdings and firm performance 45

Table 4.7: Institutional ownership cash holdings and firm performance 47

KNUST

LIST OF FIGURES

Figure 2.1: conceptual framework..... 26

KNUST

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Cash holdings were initially brought to the attention of the academic community as a result of the liquidity preference hypothesis proposed by Keynes (1936). According to his hypothesis, the most common motivations for individuals to hold onto cash are as follows: Businesses set aside cash reserves, also known as internal financial resources so that they will not have to pay transaction costs when they finally collect sources of external funding on the capital market. This can be a time-consuming and costly process due to inefficiencies and uneven information, so businesses save cash so that they will not have to pay these costs. In addition, substantial cash reserves make it easier for companies to take advantage of chances for expansion and to cope with unforeseen occurrences that can restrict their access to financial markets located outside of their home nation (Ullah, and Kamal, 2018). Additionally, having a large sum of money in the bank is often accompanied by a great deal of agency issues (Jensen, 1986).

Liquidity's theoretical significance is obscured by its many drawbacks relative to the financial flexibility afforded by stockpiling cash, such as the lack of clarity around its net influence on corporate performance. In actuality, opportunism and agency costs related to empire building, overinvestment, entrenchment, and the obtaining of private benefits at the expense of other firm investors might result from a company's access to sufficient cash (Arfan, Basri, Handayani, Shabri, Fahlevi, and Dianah, 2017; La Rocca, and Cambrea, 2019; Xiong, Zheng, An, and Xu, 2021). When weighing

the benefits and drawbacks of having cash on hand, it is difficult to determine which is more significant. Keeping cash on hand might assist the company as a whole generate more value, but it could also be because the management or the dominant shareholders wish to maximise their own utility at the cost of the firm's other stakeholders (Hunjra, Tayachi, Mehmood, and Hussain, 2021). In a similar manner, negative impacts on performance would be comprehensible in the event that the profitability of liquid resources is minimal or nonexistent. It is for this reason that cash management is considered to be one of the most critical aspects of a company's financial policy. In a similar fashion, the fact that ownership and control are separated results in the agency problem sometimes referred to as a conflict of interest between management and shareholders (Jensen and Meckling, 1976).

The agency issue arises from the fact that ownership and control are distinct concepts, and as such, management pursues investment policies beneficial to them but detrimental to the firm. Hence strong corporate governance is essential to monitor management and prevent them from abusing their power, which is necessary to ensure that the company's cash flows increase shareholder value (Anjum, Khan, Hassan and Arif, 2020). However, the negative side effects of liquidity might worsen in conditions of poor corporate governance leading to poor performance of the firm (La Rocca and Cambrea, 2019). Therefore, it is crucial to investigate the function that corporate governance plays within the context of the link between cash holdings and business performance in order to establish whether or not corporate governance intervenes.

1.2 Problem Statement

Effective resource allocation is crucial to a company's development, maximisation of shareholder value, and long-term viability. The amount of cash on hand is a crucial financial decision for every company. However, a company's liquid asset structure might vary based on variables such as its size (Arfan et al., 2017). The link between cash holdings and performance is difficult to characterise because empirical evidence makes it difficult to draw conclusions from the data.

Several studies (Asante-Darko, Bonsu, Famiyeh, Kwarteng, and Goka, 2018; La Rocca and Cambree, 2019; Yun, Ahmad, Jebran, and Muhammad, 2021) have shown the positive effects of cash accumulation on performance. They argue that a company's performance may be enhanced by maintaining a healthy cash balance since doing so provides the organisation with reduced transaction costs, less financial strain, and more financial flexibility. In contrast, there is evidence of a negative association (Huang, Elkinawy, and Jain, 2013; Habib, Bhatti, Khan, and Azam, 2021; Aslam, Kalim, and Fizza, 2019). In the presence of a big cash stock, opportunism and agency issues are exacerbated, leading to inefficient use of resources and subpar results for the organisation.

The literature in the Ghanaian context has examined the effect of cash holdings on firm performance (Asante-Darko et al., 2018). However, the study failed to consider moderating variables for the relationship. Hence a gap appears in the literature that this study seeks to address since the relationship between cash holdings and performance is shown to be dependent on corporate governance characteristics (Anjum et al., 2020). Consequently, the findings of previous studies highlight the

significance of investigating moderating factors such as board independence and ownership structure that explain the direct association between cash holdings and corporate performance (Anjum et al., 2020).

Independent board members help match management and shareholder interests, as demonstrated by Fama and Jensen (1983), which increases the firm's appeal to potential investors. By minimising the company's financial reserves, independent directors defend shareholder value, according to agency theory, which in turn boosts the effectiveness and efficiency of the business. Due to the strong financial incentives presented by their huge stock ownership, institutional investors engage in extensive monitoring. Since institutional investors prioritise the firm's long-term success, they constrain management opportunism by preventing corporations from keeping as much cash on hand to take advantage of investment opportunities that might otherwise boost the firm's performance (La Rocca and Cambree, 2019). The above argument infer that corporate governance helps to better understand the relationship between cash holdings and firm performance however previous studies in Ghana have failed to addressed it. This study therefore examines the relationship between cash holdings and firm performance by considering corporate governance as a moderating variable.

1.3 Aims and Objectives

The study aims to examine the effect of cash holdings on firm performance with corporate governance as moderating variable. The following are the specific objectives.

1. To examine the effect of cash holdings on firm performance

2. To examine the moderating effect of board independence on the relationship between cash holdings and firm performance
3. To examine the moderating effect of institutional ownership on the relationship between cash holdings and firm performance

1.4 Research Questions

1. What is the effect of cash holdings on firm performance?
2. What is the moderating effect of board independence on the relationship between cash holdings and firm performance?
3. What is the moderating effect of institutional ownership on the relationship between cash holdings and firm performance?

1.5 Scope and Limitation of the Study

The study's population are all firms listed on the Ghana stock exchange. The data source for the study is secondary data gathered from the annual report of firms. The data covers the period 2010-2021. The study limitation has to do with the sample size. The study suffers from small sample size; as data for some of the firms are not available.

1.6 Overview of Methodology

This study is quantitative because the data is numerical. The study employs quantitative research design to explain the relationship between the variables under the study. Hence the study data is analysed using multiple regression to establish such a relationship. The independent variable is cash holdings. The dependent variable is

firm performance. The moderating variable is corporate governance (board independence, institutional ownership). The control variables are firm size, inflation, leverage, and age.

1.7 Significance of the Study

There are very few researches that has been conducted on cash holdings impact on performance in Ghana. Hence this study will add to the empirical studies in Ghana. Also the Ghanaian literature has failed to explore the intervening variables between cash holdings and firm performance. This study will help benefit the research community as the findings of the study would motivate other researchers to consider other moderating variables.

This research will beneficial to financial advisers. The findings would inform them of how cash affect the performance of Ghanaian firms. Also it will enable them understand how corporate governance intervene on the relationship. This information will help them when evaluating investment opportunities and making recommendations to their clients. The findings will also help them when evaluating firm's risk profile, as a company with a large cash reserve may be better able to weather economic downturns or other challenges.

1.8 Organization of Study

This thesis has five chapters. In the first chapter, context, problem description, gap analysis, importance, goals, research questions, and methodology are discussed. The second chapter provides light on previous research by building a critical literature review and conceptual framework. The technique, data description, and example

descriptions are in the third chapter. Chapter 4 examines the investigation's findings in detail. The last chapter contains a summary, some recommendations, and some ideas for additional research.

KNUST

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter consists of the conceptual review of the study. It is followed by the theoretical review of the study which explains relevant theories to the study. The next section is the empirical review which summarizes previous studies according to the objectives of the study and the conceptual framework is then presented.

2.2 Conceptual Review

2.2.1 Cash Holdings

Tran (2020) states that a company's cash holdings is the total of its existing cash and other liquid assets. These assets include bank deposits, short-term investments, and anything else that can be turned to cash rapidly. Cash holdings are the amount of cash and liquid assets a company has on hand. This can include cash in the bank, short-term investments with maturities of less than three months, and other highly liquid assets. A company's cash holdings are an important indicator of its financial health and stability, as it provides a source of funding for unexpected expenses or opportunities that may arise (Alnori, 2020).

Cash holdings refer to the amount of cash and liquid assets a company has available to use at any given time. These assets may include cash in the bank, short-term investments, and other highly liquid assets that can be easily converted into cash (Lei, Xu and Jin, 2022). Companies with large cash holdings may be better able to weather

economic downturns or other challenges, as they have the financial resources to sustain themselves through difficult times (Lei, Xu and Jin, 2022). Again the level of firm cash holdings can vary widely depending on the size and type of business, as well as its industry and financial situation. Some firms may choose to keep a large amount of cash on hand as a buffer against unexpected expenses or as a source of liquidity to fund new investments or take advantage of opportunities that may arise. Other firms may prefer to hold smaller cash balances in order to maximize returns on their investments and minimize the opportunity cost of holding idle funds.

Overall, these definitions agree that cash holdings refer to the amount of cash and other highly liquid assets that a company has on hand, and that these assets can be an important indicator of the company's financial health and stability.

2.2.1.1 Keynesian Motives for Holding Cash

According to Keynes (1936), there are several motives for holding cash that can influence an individual or a company's decision to hold a certain amount of cash on hand.

One motive for holding cash is transaction demand, which refers to the need to have cash available to make purchases or pay bills. Another motive is precautionary demand, which refers to the need to have cash on hand as a precaution against unexpected expenses or emergencies. Speculative demand is another motive for holding cash. The desire to hold onto money in the hopes that its value will rise in tandem with that of other assets in the future. For example, an individual or company might hold cash in anticipation of buying a stock or other asset at a lower price in the

future. Finally, liquidity preference is another motive for holding cash. This refers to the preference for holding liquid assets, such as cash, over less liquid assets, such as real estate or long-term investments. This preference for liquidity can be influenced by factors such as interest rates and the overall level of economic uncertainty.

Overall, these motives for holding cash can influence an individual or a company's decision to hold a certain amount of cash on hand, and can be influenced by a variety of economic and financial factors.

2.2.2 Corporate Governance

According to literature there several definitions of corporate governance which can be grouped under legal, ethical, managerial and stakeholder.

Legal definition: Corporate governance is defined as the system of laws, rules, and practices that determine how a company is directed, administered, and controlled. This definition emphasizes the legal framework that governs corporate governance practices (Farooq, Noor and Ali, 2021).

Ethical definition: Corporate governance can be defined as the system of principles, values, and practices that guide the actions and decisions of a company, with the aim of ensuring that the company operates in an ethical and responsible manner. This definition emphasizes the ethical principles that underlie corporate governance practices (Fan, Radhakrishnan and Zhang, 2021).

Managerial definition: Corporate governance can be defined as the system of processes, practices, and structures that are put in place to direct and control a company, with the aim of ensuring that the company is run efficiently and effectively. This definition emphasizes the managerial aspects of corporate governance (Nicolò, Zampone, Sannino and De Iorio, 2021).

Stakeholder definition: The word "corporate governance" refers to the structure that a corporation establishes to guarantee that its shareholders, workers, customers, suppliers, and the general public are all considered when making significant business decisions. The significance of strong corporate governance in balancing opposing interests is emphasised (Ruwanti, Chandrarin and Assih, 2019).

Overall, these definitions highlight different aspects of corporate governance, including its legal, ethical, managerial, and stakeholder dimensions. There are several key components that are often included in the definitions of corporate governance. These can include:

Board of directors: The board of directors monitors the work of management and takes significant policy decisions on behalf of the shareholders. The board should be composed of a diverse group of individuals with relevant expertise and experience, and should be accountable to the shareholders (Abdelfattah and Aboud, 2020).

Shareholders: Shareholders are the owners of a company and have a stake in the company's profits and assets. They have the right to vote on important matters

relating to the company, such as the appointment of directors and the approval of major decisions (Fahad and Rahman, 2020).

Management: A company's management is the group of individuals responsible for day-to-day operations. They must answer to the board of directors and investors for the company's performance (Ahsan, Mirza, Al-Gamrh and Bin-Feng, 2020).

External stakeholders: External stakeholders are those who have an interest in or are impacted by a company's activities but are not actively engaged in its management. This includes consumers, suppliers, and banks, as well as the general public (Fahad and Rahman, 2020).

Corporate governance practices: Corporate governance practices refer to the specific rules, procedures, and processes that a company follows in order to ensure that it is directed and controlled in an effective and accountable manner. These can include things like reporting and disclosure requirements, shareholder meetings, and independent audits (Ruwanti, Chandrarin and Assih, 2019).

2.2.2.1 Board Independence

The degree to which a company's board of directors is free from prejudice and external influences is referred to as board independence. A board of directors that is free from external influences may serve the best interests of the firm and its shareholders (Tulung and Ramdani, 2018). Also "independence" refers to the ability of a board of directors to make decisions without being influenced by either the company's management or its own personal agendas. A board of directors that is

independent is better equipped to protect both the firm and its investors (Bansal, 2021).

Uribe-Bohorquez, Martnez-Ferrero, and Garca-Sánchez (2018) define board independence as the capacity of a firm's board of directors to make decisions in the best interest of the company and its shareholders without being affected by outside parties or board members' self-interests. A board that is neutral and objective may thus make smart choices for the firm.

All of these definitions agree that an independent board is unbiased and competent to make decisions in the best interests of the firm and its shareholders without being affected by internal or external considerations. There are several ways to measure the independence of a company's board of directors. Some common approaches include:

Director independence: One way to measure board independence is to look at the percentage of independent directors on the board. Companies may have a requirement that a certain percentage of their directors be independent, or they may use a set of criteria to determine which directors are considered independent (Tulung and Ramdani, 2018).

Director interlocks: Another way to measure board independence is to examine whether any of the directors on the company's board also serve on the board of another company. This is known as a director interlock, and it can indicate that the director may be more influenced by the interests of the other company (Tulung and Ramdani, 2018).

Director ownership: The ownership stakes of directors in the company can also be a measure of board independence. Directors who own a significant portion of the company's shares may have a personal stake in the company's performance and may be less independent in their decision-making (Bansal, 2021).

Director compensation: The compensation of directors can also be a factor in measuring board independence. Directors who receive a large portion of their compensation from the company may be more influenced by the company's interests, while directors who receive a smaller portion of their compensation from the company may be more independent (Bansal, 2021).

2.2.2.2 Institutional Ownership

Institutional ownership is the proportion of a company's shares owned by major institutional investors, such as pension funds, insurance companies, and mutual funds. These investors have a reputation for being more knowledgeable and financially savvy than the average retail investor and have a long-term investment horizon (Din, Khan, Khan and Khan, 2021). Institutional ownership refers to the proportion of a company's outstanding shares that are held by big institutional investors such as pension funds, mutual funds, and insurance companies. It is often believed that institutional investors are more competent and financially aware than individual investors (Laporek, Dolenc, Grum, and Stubelj, 2021). Institutional ownership refers to the proportion of a company's outstanding shares that are held by big institutional investors such as pension funds, mutual funds, and insurance companies. Institutional

investors have a long-term investment horizon and are often seen as more competent and financially savvy than individual investors (Tran and Dang, 2021).

According to these definitions, "institutional ownership" refers to the ownership of a company's shares by big, specialised financial institutions as opposed to regular investors. There are several ways to measure institutional ownership. Some common approaches include:

Institutional ownership percentage: One way to measure institutional ownership is to calculate the percentage of a company's outstanding shares that are owned by institutional investors. This can be done by looking at the company's shareholder lists and identifying the institutional investors that own shares (Tran and Dang, 2021). Number of institutional investors: Another way to measure institutional ownership is to count the number of institutional investors that own the company's stock. This can provide a sense of the diversity of institutional ownership and the extent to which the company is reliant on a small number of large institutional investors (Nguyen, Lien Le and Anh Vu, 2021).

Institutional ownership concentration: Another method for quantifying institutional ownership is looking at the concentration of institutional ownership, which is the percentage of outstanding shares owned by the top institutional investors. A high concentration of institutional ownership can indicate that the company is reliant on a small number of large institutional investors (Tran and Dang, 2021).

2.2.3 Financial Performance

This is a monetary assessment of the results of a company's strategies and actions. Ratios of the firm's return on assets to its return on investments are useful predictors of such outcomes. One's assessment of a firm's financial success is an indication of how profitable its core operations are. Profit from operations, operational cash flow, total unit sales, and unit sales revenue are all indicators of financial health. The analyst or investor could go into the financials to check for signs of debt reduction or margin growth rates (DasGupta, 2022). How well a firm is performing financially may be gauged by looking at a number of different statistics, such as its profitability, liquidity, the efficiency with which its financial structure is used, and the investment-to-shareholder ratio (Okafor, Adeleye and Adusei, 2021).

In order to gauge a company's financial health, one might look at its gross profit margin. It is the amount of money remaining after all expenses related to making a transaction have been subtracted. It is a comprehensive metric that falls between gross profit and net profit. How a corporation handles the dangers of long-term debt may be gauged by looking at its financial leverage and gearing ratios. Liquidity ratios demonstrate the capacity to satisfy current commitments. These ratios may be used to assess the sustainability of a company's growth and its shareholders' rate of return. Analysts may learn about the consensus opinion of the market about a company's performance by looking at its stock price (Bătae, Dragomir, and Feleagă, 2021).

2.3 Theoretical Review

2.3.1 Pecking Order Theory

According to the pecking order theory given by Myers (1977) and Myers and Majluf (1984), there is no ideal cash level. Myers and Majluf (1984) argue that a company's financing of the investment, firstly by retain earning and second priority is debt (risky and safe debts) and the last phase of investment is equity, and in the last phase of the investment is in the nation's capital. Management will hold the additional cash in order to prevent the financing of new investments in debt and equity, and that their priority has been to make the investment to be financed by retained earnings. As anticipated by Myers and Majluf, businesses would utilise their asymmetric information cash reserves to finance successful new enterprises, pay off current debts, expand cash reserves, and issue cash dividends (1984).

When retained profits are inadequate to fund new investment, corporations first utilise cash on hand, then issue further debt, and lastly, when debt borrowing capacity is exhausted, issue securities. Due to this, corporations may choose not to issue securities, missing out on prospects for projects with high net present value (Myers, 1977). To prevent this problem, businesses should save sufficient funds for investments in prospective possibilities (Myers and Majluf, 1984). Hence cash holding effect on firm performance is positive. One aspect of the pecking order theory is that firms with higher cash holdings are more likely to use internal financing, as they have the financial resources to do so. This is because firms with large cash reserves are better able to cover their expenses and investments without having to borrow from external sources. As a result, these firms may be able to avoid the costs

and limitations associated with debt financing, such as interest payments and covenants.

On the other hand, firms with low cash holdings may be more reliant on external financing, such as debt or equity, in order to fund their operations and investments. These firms may be more constrained by the terms and conditions of their external financing, and may have less flexibility in terms of their financial decision-making. Overall, the pecking order theory suggests that cash holdings can have an impact on the performance of firms, as they may influence the financing choices that firms make and the costs and constraints associated with those choices.

2.3.2 Free Cash Flow Theory

Jensens (1986) proposed in his research that top-level managers have a surplus of cash equivalents with the incentives is to grow the assets in order to gain control and power over the company's decision. If they have a big amount of cash, then they do not have the need to attract external funding.

According to the theory, firms with high levels of free cash flow may be more likely to make poor investment decisions or engage in activities that do not generate value for shareholders, such as engaging in mergers and acquisitions or paying out high dividends. This is because these firms may not face the same financial constraints as firms with lower levels of free cash flow, and may therefore be more prone to overspending or misallocating their resources (Le, Tran, Ta, and Vu, 2018).

Corporate governance plays a role in regulating cash holdings by ensuring that firms with high levels of free cash flow are held accountable for their use of those funds and that they are making decisions that are in the best interests of shareholders. This can involve setting clear guidelines and policies for the allocation of free cash flow, as well as providing oversight and monitoring of the firm's financial decision-making (Doan, 2020).

Overall, the free cash flow hypothesis suggests that corporate governance can help regulate cash holdings by ensuring that firms with high levels of free cash flow are held accountable for their use of those funds and that they are making decisions that are in the best interests of shareholders.

2.2.3 Stewardship Theory

When considering the dynamic of motivating managers, the stewardship theory presents an alternative perspective to the traditional agency theory (Abid et al., 2014). While agency theory suggests that managers' actions may deviate from maximizing shareholder returns, stewardship theory offers the premise that there is no inherent, pervasive problem of executive motivation. Rather, stewardship theory posits that corporate performance is intricately linked to the organizational structure within which managers operate (Donaldson and Davis, 1991). Unlike the opportunistic behavior often associated with agency theory, stewardship theory places a stronger emphasis on conscientiously executing responsibilities and being a custodian of the company's assets.

Central to the stewardship theory is the belief that managers are intrinsically motivated by non-monetary rewards, such as a sense of duty, ownership, and pride in their work. This contrasts with the emphasis on external rewards, like financial compensation, in other theories. Stewardship theory postulates that when managers adopt the role of stewards, they are more inclined to act in the organization's best interests, prioritizing the collective goals over their individual pursuits.

The core tenet of stewardship theory asserts that a manager's foremost duty is to ensure the organization's long-term viability by making decisions that harmonize with its values and objectives. In this capacity, managers function as fiduciaries entrusted with the prudent management of the organization's resources on behalf of its stakeholders (van Puyvelde et al., 2012).

Within the framework of stewardship theory, leaders are perceived as stewards who possess a genuine commitment to serving their organizations and have a vested interest in the greater good (Madison et al., 2016; van Puyvelde et al., 2012). This stewardship-oriented behavior cultivates alignment of interests, thereby promoting pro-organizational conduct and bolstering firm performance through the mechanisms of governance frameworks (Davis, David, and Donaldson, 1997).

In the context of the study, where board independence positively moderates the relationship between cash holdings and firm performance, the principles of stewardship theory become particularly relevant. Independent directors, operating with a stewardship mindset, can play a pivotal role in influencing cash management decisions that prioritize the long-term sustainability and growth of the organization.

Their commitment to the organization's well-being and alignment of interests can facilitate strategic cash deployment, thereby contributing to the positive correlation observed between board independence, cash holdings, and firm performance.

2.4 Empirical Review

2.4.1 Cash Holdings and Firm Performance

Rocca and Cambrea (2019) examined the relationship between cash on hand and performance in Italy over the course of 36 years. Considering the availability of contradictory information about the worth of cash on hand, which may lead to a positive rather than a negative impact, the function of moderating variables that might change the strength of this relationship is thoroughly studied. The study revealed that cash on hand has a beneficial impact on a company's performance so long as certain other requirements are satisfied, but a negative effect if a certain threshold is exceeded.

Anton and Nucu (2019) analysed the association between cash on hand and valuation for 719 Polish publicly traded firms from 2007 to 2016. The research indicated that companies with less financial restraints had lower cash reserves on average.

Iftikhar (2017) conducted research on the impact of cash equivalents, the availability and the performance of the companies for the period of 2010 to 2014 in the publicly listed companies in the financial and non-financial stock exchange market in Karachi, and he discovered that companies with a high cash-in-storage tend to have greater cash flow uncertainty. It is also shown that, in the case of substantial investment possibilities, there is a positive relationship between the state of a company's assets

and its return on assets, notwithstanding the external investment of highly rated firms in 2008.

Dimitropoulos, Koronios, Thrassou, and Vrontis (2019) evaluated the influence of cash on the financial performance and viability of Greek SMBs before and after the Greek sovereign debt crisis. From 2003 to 2016, the authors examined a large cross-section of Greek small and medium-sized enterprises (SMEs) and large organisations. Before and during the Greek debt crisis, panel regression analysis was undertaken. Cash on hand favourably influences a company's profitability and viability, confirming the precautionary hypothesis of cash holdings in Greece. While cash was advantageous to both big and small firms before to the economic slump, its significance and influence have become more obvious to the former.

Aslam, Kalim, and Fizza (2019) looked into the link between cash on hand and how a company is run and how it governs itself. Pakistan's Karachi Stock Exchange (KSE) 100 index and Karachi Meezan Index (KMI) 30 index were used to choose the sample between 2010 and 2014. Thirty companies with roots in Islam were included in the KMI 30 index. Cash on hand has a negative and statistically significant relationship with earnings per share (EPS) and return on assets (ROA). It has a positive and statistically significant relationship with Tobin's Q and market share price (TQ, MSP).

Amahalu and Bwatrice (2017) performed an experiment to investigate the impact of cash on the financial performance of many Nigerian insurance companies. Cash on hand was shown to have a considerable positive influence on both ROA and ROE for enterprises.

Habib, Bhatti, Khan, and Azam (2021) examined the impact of cash on the value of Chinese enterprises. They discover evidence of a nonlinear link between cash on hand and the worth of Chinese enterprises. According to the conclusions of the research, the value of a firm drops if it is financially constrained and has a big cash balance, whereas it grows if it is financially free and has a low cash balance.

2.4.2 Board Independence in the relationship between Cash Holdings and Firm Performance

Anjum, Khan, Hassan, and Arif (2020) looked into how the relationship between cash on hand and financial performance is affected by corporate governance. They look at 145 non-bank companies that traded on the Pakistan Stock Exchange (PSX) between 2006 and 2017. They do this by using data from other sources. The Generalized Method of Moments (GMM) is used to deal with the problem of heterogeneity that cannot be seen. This research shows that the amount of cash a company has on hand has a big effect on how well it does. Also, corporate governance makes the link between cash on hand and business performance much less strong.

Ameer (2012) used an unbalanced panel dataset of Australian non-financial listed enterprises to look at how cash reserves and concentration of ownership affect the value of a business. After taking into account the effects of financing, dividend, and investment decisions, the author used a generalised technique of moments approach for imbalanced panel datasets to look at how cash affects q-ratios within businesses. The authors find that the q-ratio and the cash reserves of Australian businesses are linked in a good way. There is a large positive correlation between cash on hand and

q-ratio for publicly traded companies with different owners. However, there is a large negative correlation between cash on hand and q-ratio for privately owned businesses. Improvements in corporate governance have an effect on both the Q-ratio and the structure of who owns the company. The article also looked at how cash affects the market value of a company. As the author predicted, having more cash on hand has a negative effect on the market value of a company. However, this effect lessens over time.

2.4.3 Institutional Ownership in the relationship between Cash Holdings and Firm Performance

Sumiati (2020) examined the relationship between cash on hand and the value of nonfinancial businesses in Indonesia. This research reveals that the link between cash on hand and business value is moderated by managerial ownership. Cash on hand influences a company's value, while management ownership may lessen the association between cash on hand and valuation. The results of the moderation test suggest that managerial ownership may moderate the link between cash on hand and business value; nevertheless, the greater the managerial ownership, the weaker the relationship between cash on hand and company value. High levels of managerial ownership are connected with poor cash management and a subsequent drop in a company's value, as shown by these findings.

Le (2016) conducted a research on the effect of a firm's greater level of cash holdings on its ability to recover from a productivity shock. He found that after a productivity shock, a company's cash holdings are of little benefit to a company that is deficient

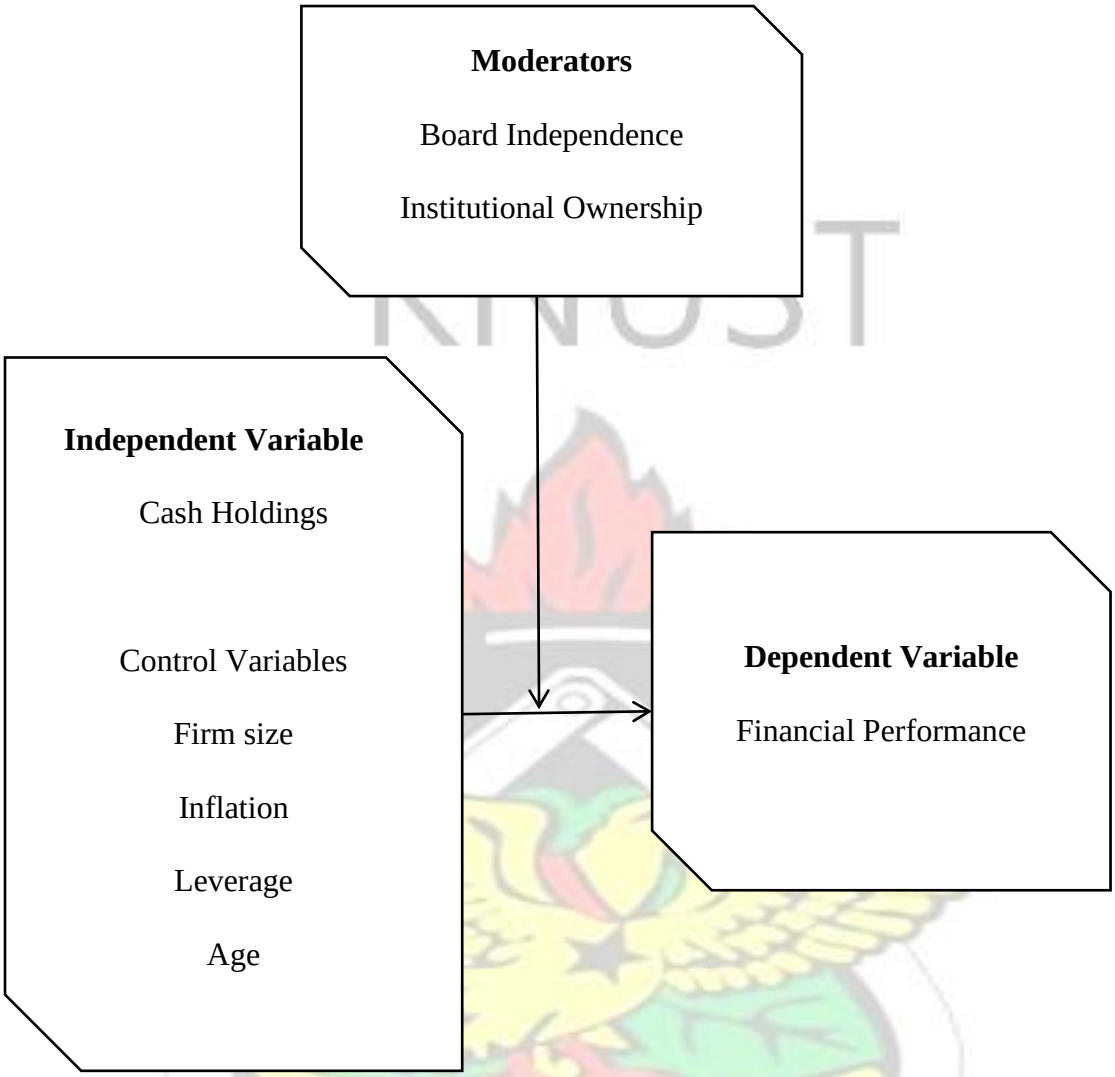
in cash and cash equivalents. The low-cash enterprises are required to lower their property and, much worse, the cost of the investment, but the high-cash firms are not subject to such laws. The effect is more pronounced for organisations with a strong inclination for leadership and consolidation, but it has less of an effect for enterprises operating in a competitive product market, with a diverse array of investment alternatives, or for big institutional investors.

Ashhari and Faizal (2018) analysed the influence of cash on the financial health of Malaysian small companies. They monitored one hundred small and medium-sized firms for five years (SMBs). When determining how much cash a corporation should keep on hand, it turns out that company size, leverage, growth potential, working capital, capital expenditures, and cash flow volatility are what truly important. In addition, the data revealed a substantial association between cash on hand and the performance of small and medium-sized firms (SMEs).

2.5 Conceptual Framework

The framework for the study is shown in figure 2.1. The independent variable is cash holdings. The dependent variable is firm performance. The moderating variable are board independence and institutional ownership. The control variables are firm size, inflation, Leverage and age.

Figure 2.1: conceptual framework



Source: Author's construct (2022)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the research design, the population, as well as the sample and data. This chapter also considers data analysis and the variables for the study

3.2 Research Design

Research design is the plan or strategy that a researcher uses to answer a research question (Gravetter and Forzano, 2018). In order to answer the research questions a descriptive research design and quantitative research approach was chosen. Quantitative research approach is a type of research approach that uses numerical data and statistical techniques to evaluate relationships between variables and make predictions about the behaviour of a population (Gravetter and Forzano, 2018). The study chose quantitative design because the data for the study were numerical variables. And also quantitative study made it possible to test the relationship between the variables statistically.

3.3 Population

The individuals or entities that are the subject of a research are referred to as its "population" (Gravetter and Forzano, 2018). This study's population consisted of enterprises trading on the Ghana Stock Exchange. There are now 39 firms trading on the stock exchange.

3.4 Sample Size and Sampling Technique

The study selected a sample of eighteen non-financial firms for analysis, with the validation of the sample contingent upon contextual considerations. The context, encompassing the sector, activity, and data availability of the chosen companies, was a critical determinant in ensuring the suitability of the sample. This deliberate selection aimed to ensure a degree of homogeneity among the sample companies, facilitating a more focused and coherent analysis. The rationale behind this approach lies in the potential challenges that can arise when attempting to analyse a diverse range of companies within a single sample. The presence of significant contextual disparities can complicate the analysis process and impede the ability to draw meaningful conclusions.

To ensure a more controlled and manageable analysis, the study deliberately excluded financial firms from the sample. This decision stems from the distinct regulatory environment governing financial activities, which could introduce confounding variables and hinder the study's ability to isolate the specific effects of interest. By focusing exclusively on non-financial firms, the study aimed to enhance the clarity of its findings and provide a more accurate representation of the relationship between cash holdings, board independence, and firm performance within a specific context.

The study's chosen timeframe spanned a twelve-year period from 2010 to 2021. This temporal scope was selected based on the availability of annual reports, which constituted a primary source of data for the analysis. By concentrating on this period, the study aimed to capture a comprehensive view of the dynamics and trends over time, allowing for a robust examination of the research variables. The decision to

focus on a twelve-year span reflects a balance between capturing a sufficiently extensive dataset and maintaining the practicality of data collection and analysis.

3.5 Data Collection Methods

This data was obtained from secondary sources. The bulk of the numerical data comes from the annual reports of the firms. Some data, however, were gathered over a longer period of time (2010-2021), whilst data from certain firms was obtained in part only. Hence the data was unbalanced.

3.6 Data Analysis

The data was analysed using Stata 15. The study data contained both cross section and several time periods making it a panel data. Panel data is a type of dataset that contains observations on multiple entities (such as firms, individuals, or countries) over multiple time periods (Croissant and Millo, 2019). The advantage of panel data is that it can provide more accurate estimates by increasing the sample size, and it allows for the exploration of how certain effects change over time. In addition, panel data can help to address the problem of missing variables, as it includes multiple observations on each entity, allowing researchers to control for individual-level heterogeneity that may affect the outcome variable. Overall, the use of panel data in the study can be seen as a strength, as it provides a richer and more comprehensive picture of the relationship between cash holdings and firm performance over time (Söderbom, 2009). Due to the nature of the study data the panel regression analysis was employed for the study. Panel regression is a statistical method used to analyse data that come from multiple sources over a period of time (Abadie and Cattaneo, 2018). This type of regression is also known as cross-sectional time-series analysis

because it involves analysing data from multiple cross-sections of a population over time. Panel regression allows researchers to examine how changes in one variable are associated with changes in another variable over time, while controlling for individual-level heterogeneity that may affect the outcome variable.

Fixed effects regression and random effects regression are two commonly used techniques for panel regression. Fixed effects regression allows researchers to control for time-invariant individual-level heterogeneity, while random effects regression assumes that the individual-level effects are random and uncorrelated with the independent variables (Croissant and Millo, 2019). To determine which method to use, researchers can use a Hausman test, which compares the consistency and efficiency of the fixed effects and random effects estimators. Overall, the use of panel regression in the study can be seen as a strength, as it allows for the exploration of how the relationship between cash holdings and firm performance changes over time, while controlling for individual-level heterogeneity (Söderbom, 2009).

3.6.1 Diagnostic Tests

Greene (2012) avers that it is critical that any model estimated should not violate the assumption of the classical linear regression model (CLRM). Estimation of equations that violated the assumptions of the CLRM would produce results that were spurious, inefficient, biased and inconsistent (Gujarati and Porter, 2009).

3.6.1.1 Multicollinearity

The correlation matrix was used to determine the level of correlation between the study variables. The cut-off level of severe multicollinearity was 0.8 (Gujarati and

Porter, 2009; Greene, 2012). High levels of correlation between the study variables would produce indeterminate coefficients and infinite standard errors. The infinite standard errors reduce the accuracy of the null hypothesis which affects the decision to reject or accept the hypothesis. The presence of multicollinearity is not a challenge in estimation, the severity is the challenge (Greene, 2012). Correlation coefficients of 0.8 or greater indicate the presence of multicollinearity. The multicollinearity test was conducted using Pearson correlation.

3.6.1.2 Autocorrelation

According to Wooldridge (2002), the problem of autocorrelation is often experienced in panel data. A failure to account for autocorrelation results in idiosyncratic error terms. The resulting estimates would thus be biased and inefficient. Wooldridge test for autocorrelation was used to evaluate the presence or absence of autocorrelation in the study data. The null hypothesis for the test states that the data does not have serial autocorrelation.

3.6.1.3 Heteroskedasticity

The classical linear regression model (CLRM) assumes that the error term is homoscedastic. Homoscedasticity means that the error term has constant variance. If the error variance is not constant, the estimates will be unbiased, and the standard errors will be invalid. Heteroskedasticity was tested for using the Breusch-Pagan / Cook-Weisberg test as suggested by Greene (2012). The null hypothesis for the test is that the error term is homoscedastic.

3.7 Model Specification

The econometric model for the study follows the study of Yun, Ahmad, Jebran and Muhammad (2021).

$$FP_{it} = \alpha + \beta_1 \mathrm{CSHD}_{it} + \beta_2 \mathrm{FS}_{it} + \beta_3 \mathrm{INFL}_{it} + \beta_4 \mathrm{LEV}_{it} + \beta_5 \mathrm{AGE}_{t} + €_{it} \ldots\ldots (1)$$

$$FP_{it} = \alpha + \beta_1 \mathrm{CSHD}_{it} + \beta_2 \mathrm{BI}_{it} + \beta_3 (\mathrm{CSHD} * \mathrm{BI})_{it} + \beta_4 \mathrm{FS}_{it} + \beta_5 \mathrm{INFL}_{t} + \beta_6 \mathrm{LEV}_{t} + \beta_7 \mathrm{AGE}_{it} + €_{it} \ldots\ldots (2)$$

$$FP_{it} = \alpha + \beta_1 \mathrm{CSHD}_{it} + \beta_2 \mathrm{INSTOWN}_{it} + \beta_3 (\mathrm{CSHD} * \mathrm{INSTOWN})_{it} + \beta_4 \mathrm{FS}_{it} + \beta_5 \mathrm{INFL}_{t} + \beta_6 \mathrm{LEV}_{t} + \beta_7 \mathrm{AGE}_{it} + €_{it} \ldots\ldots (3)$$

FP: firm performance which stands for both ROA and Tobin's Q ratio, CSHD: cash holdings, INSTOWN: institutional ownership, FS: firm size, INFL: inflation, LEV: leverage, A: age; BI: board independence.

3.8 Variables and Measurement

Table 3.1 shows the variables and measurement for the study. The independent variable is cash holdings. The dependent variable is firm performance. The moderating variable are board independence and institutional ownership. The control variables are firm size, inflation, Leverage and age.

Table 3.1 Variables and measurement

Variables	Measurement	Source
	Dependent Variable	
Firm performance	Return on assets, Tobin's Q ratio	Iftikhar (2017)
	Independent Variable	
Cash holdings	Cash and cash equivalents divided by net total assets,	Sumiati (2020)
	Moderators	
Board independence	percentage of outside directors to the total number of directors	Ameer (2012)
Institutional ownership	The number of shares owned by institutions divided by total shares	Ameer (2012)
	Control Variables	
Firm Size	Natural log of total assets	Habib, Bhatti, Khan, and Azam, (2021)
Leverage	Total debt to total assets	(Hongli, Ajorsu, and Bakpa, 2019)
Age	Age of the firm	Dimitropoulos, Koronios, Thrassou, and Vrontis (2019)
Inflation	Consumer price index	Habib, Bhatti, Khan, and Azam, (2021)

Source: Author's construct (2022)

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results of the study and discusses the findings. The descriptive statistics of the results are presented and diagnostics tests are performed before the final results are presented.

4.2 Descriptive Statistics

Table 4.1 describes the variables of the study. ROA, a crucial metric for measuring profitability, reflects a firm's ability to generate earnings relative to its total assets. The average ROA of 0.08 suggests that, on average, these firms yielded an 8% return on their assets during the studied period. The positive mean indicates that most firms were able to generate a profit, albeit with significant variability as indicated by the standard deviation of 0.36. The presence of both negative and positive ROA values highlights a heterogeneous group of firms with varying levels of success in converting assets into earnings. Tobin's Q ratio, a barometer of market sentiment, assesses the market value of a firm relative to the replacement cost of its assets. With an average TQ of 1.61, these firms have been valued, on average, at a level higher than the cost of their assets. This suggests that investors hold positive expectations for the future prospects of these firms. The wide range from 0.31 to 12.83 underscores the diversity in market perceptions, possibly reflecting differences in growth potential, innovation, and market positioning.

The Cash holding variable provides insights into the cash reserves relative to net assets. The mean of 0.11 indicates that, on average, these firms maintained a modest cash cushion. However, the standard deviation of 0.64 reveals substantial heterogeneity in liquidity positions. The Board Independence variable, measuring board independence, offers a glimpse into the effectiveness of governance structures. With a mean of 0.75, these firms, on average, exhibit a substantial level of board independence. The limited standard deviation of 0.15 suggests a relatively consistent approach to board composition and oversight across the sample. The level of institutional ownership, provides insights into the influence of institutional investors on corporate affairs. The average institutional ownership of 0.58 suggests a moderate level of influence exerted by institutional investors across the firms. The wide range from 0.00 to 0.97 highlights the divergent strategies and preferences of institutional investors, potentially impacting decision-making and strategic direction.

Table 4.1: Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
Return on assets	0.08	0.36	-0.91	4.48
Tobin's Q ratio	1.61	1.58	0.31	12.83
Cash holdings	0.11	0.64	2.47	8.44
Board independence	0.75	0.15	0.29	0.92
Institutional ownership	0.58	0.37	0.00	0.97
Leverage	0.61	0.42	0.02	5.18
Size	18.11	2.12	13.79	23.59
Age	46.89	16.63	18.00	93.00
Inflation	0.12	0.03	0.07	0.17

Source: Author's construct (2022)

Leverage, is a crucial determinant of a firm's financial risk and stability. The mean leverage value of 0.61 signifies that, on average, firms carry a debt-to-equity ratio slightly higher than 0.5. The standard deviation of 0.42 indicates significant variability in leverage ratios across the sample, reflecting diverse capital structures. The range from 0.02 to 5.18 underscores the varying degrees of financial leverage within the cohort. Firms with higher leverage may experience amplified returns in times of prosperity, but also heightened vulnerability during economic downturns.

Size, represented by the natural logarithm of total assets, provides insights into the scale and scope of firms. The average size value of 18.11 suggests a logarithmic scale, indicating a wide range of asset sizes among the studied firms. The standard deviation of 2.12 highlights substantial dispersion, underscoring the diverse nature of the firms' asset bases. Ranging from 13.79 to 23.59, the data reveals a spectrum of firm sizes, which could correlate with varying operational efficiencies, market reach, and growth potential.

The age of a firm, measured in years, offers valuable insights into its maturity and experience within the industry. The average age of 46.89 years implies that, on average, the firms in the dataset have been established for nearly five decades. The standard deviation of 16.63 indicates significant variation in firm ages, possibly reflecting differences in entry points and historical contexts. The range from 18 to 93 years underscores the wide span of organizational experiences, which can influence management strategies, risk tolerance, and adaptability.

Inflation provides a glimpse into the macroeconomic environment in which these firms operate. The average inflation rate of 0.12 suggests a relatively moderate inflationary backdrop during the period under study. The standard deviation of 0.03 indicates relatively limited variation in inflation rates. The range from 0.07 to 0.17 suggests a controlled inflation environment, which may impact pricing strategies, cost structures, and economic forecasts for these firms.

4.3 Correlation Matrix

Table 4.2 shows that Pearson correlation for the study. The table analyses the relationship among the variables of the study. It is seen from the table that the highest correlation among the independent variables is between institutional ownership and size at 0.5. The figure is less than 80 percent which means they are not highly correlated hence there is no multicollinearity among the variables.

Table 4.2: Correlation matrix

	ROA	TQ	CSHD	BI	INSTOW	LEV	SIZE	AGE	INFL
ROA	1.00								
TQ	0.44	1.00							
CSHD	-0.13	0.23	1.00						
BI	-0.17	-0.07	0.10	1.00					
INSTOW	0.06	0.23	0.04	-0.08	1.00				
LEV	0.56	0.25	-0.32	-0.09	0.19	1.00			
SIZE	0.04	0.06	0.04	0.01	0.54	-0.03	1.00		
AGE	0.07	0.28	0.02	-0.28	0.32	0.02	0.35	1.00	
INFL	-0.06	0.01	0.14	-0.06	-0.11	-0.10	-0.06	-0.05	1.00

Source: Author's construct (2022), ROA: return on assets, TQ: Tobin's Q ratio, CSHD: cash holdings, BI: board independence, INSTOW: institutional ownership, INFL: inflation. LEV: leverage

4.4 Hausman Test

The study conducts the Hausman test to choose between fixed effect and random effect. The results are displayed in Table 4.3. The results in the table shows that the p-values in all the equations are below 5 percent. This means the null hypotheses are rejected in favour of the alternate hypothesis and the fixed effect model is selected.

Table 4.3: Hausman test

		ROA	TQ
	Stat	21.83	30.09
Equation one	P-value	0.00***	0.00***
	stat	29.82	27.73
Equation two	P-value	0.00***	0.02**
	stat	70.46	25.48
Equation three	P-value	0.01***	0.00***

Source: Author's construct (2022), ***: 1% significance level, **: 5% significance level

4.5 Diagnostic Test

The study tested for autocorrelation and heteroskedasticity and the results are displayed in Table 4.4. Based on the results of the Wooldridge test, it is observed that there is evidence of autocorrelation in both ROA and TQ. The relatively low p-values (0.04 and 0.00) indicate that the test statistics are statistically significant, providing strong evidence against the null hypothesis that there is no autocorrelation present. These results suggest that the error terms in both regression models are correlated with each other over time, which can affect the validity of the parameter estimates and subsequent inferences drawn from the models. The results of the Breusch-Pagan / Cook-Weisberg

test for heteroskedasticity indicate strong evidence of heteroskedasticity in all three regression equations for both ROA and TQ. The very low p-values (0.00) associated with all test statistics indicate that the heteroskedasticity is statistically significant. This suggests that the variance of the error terms in these equations is not constant across all levels of the independent variables. This study uses Driscoll-Kraay standard errors to account for both heteroskedasticity and autocorrelation in the regression models.

Table 4.4: Diagnostic tests

Autocorrelation			Heteroskedasticity		
Equation	ROA	TQ		ROA	TQ
			stat	2.41	7.99
Stat	4.634	1185.576	P-value	0.00***	0.00***
			stat	4.56	12.61
P-value	0.04	0.000	P-value	0.00***	0.00***
			stat	6.35	38.71
			P-value	0.00***	0.00***

Source: Author's construct (2022), ROA: Return on assets, TQ: Tobin's Q ratio, ***: 1% significance level.

4.6 Presentation of Results

The results of the study are presented according to the objectives of the study in this section.

4.6.1 Cash Holdings and Firm Performance

It is seen from Table 4.5 that the r-squared is 0.62 and 0.37. This means that independent variables explain 62% and 37% variation in the dependent variable. The f-statistics is significant at the 1 percent level confirming the overall significance of the model. The table shows that the coefficient of cash holdings is positive for Tobin's Q ratio (0.4584906) and return on assets (0.0440373). The p-value for Tobin's Q is 0.01 and return of assets is 0.07. This shows that there is a significant positive relationship between cash holdings and firm performance at the 1 percent level and the 5 percent level. Hence an increase in the level of cash of the firm leads to an increase in the performance of the firm. The finding supports the study of Rocca and Cambrea (2019). This finding is explained by the fact that firms require funds to run its operations and as such higher cash levels will help the firm meet its operational needs leading to higher performance. Also the higher market performance is explained by the fact that firms are able to use cash to make investments or acquisitions that can increase the value of its assets and drive up its Tobin's Q ratio. Also Companies with high cash holdings may be viewed as more financially stable by investors and able to weather economic challenges, which could lead to a higher Tobin's Q ratio since investors will purchase its shares thereby driving the share price upwards.

Table 4.5: Cash holdings and firm performance

	Return on Assets				Tobin's Q ratio			
	Coefficient	Std. Err.	t-stat	P-value	Coefficient	Std. Err.	t-stat	P-value
CSHD	0.0440373	0.0219095	2.01	0.07*	0.4584906	0.1327865	3.45	0.01***
Leverage	0.799244	0.1400168	5.71	0.00***	1.997188	0.2957078	6.75	0.00***
Size	0.00505	0.0186506	0.27	0.79	-0.214095	0.2171367	-0.99	0.35
Age	-0.0184472	0.0071168	-2.59	0.03**	-0.080418	0.0376435	-2.14	0.06**
Inflation	-0.2366002	0.4830827	-0.49	0.63	0.2680811	1.699513	0.16	0.88
Constant	0.3858852	0.1501458	2.57	0.03**	7.961402	2.979815	2.67	0.02**
OBS	191				191			
R-square	0.62				0.37			
F-stat	16.17***				86.71***			

Source: Author's construct (2022), CSHD: cash holdings, ***: 1% significance level, **: 5% significance level, *: 5% significance level

This finding is related to the pecking order theory. This theory suggests that firms prioritize their use of cash in a particular order, starting with internal financing (retained earnings) and then progressing to debt and equity financing. According to this theory, firms that have higher cash holdings are better able to fund growth opportunities internally and may therefore be more financially successful. When companies' priorities internal financing they grow their cash levels to meet the financial needs of the firm.

4.6.2 Board Independence, Cash Holdings and Firm Performance

It is seen from table 4.6 that the r-squared is 0.83 and 0.40. This means that independent variables explain 83% and 40% variation in the dependent variable. The f-statistics is significant at the 1 percent level confirming the overall significance of the model. The table shows that the coefficient of the interaction between board independence and cash holdings is 4.38534 for ROA and 5.211852 for Tobin's Q ratio and the p-value is significant at 1% level for both Tobin's Q ratio and ROA. The finding means that board independence positively moderates the relationship between cash holdings and firm performance. The findings support the studies of Yun, Ahmad, Jebran and Muhammad (2021).

Independent directors are members of a company's board of directors who are not affiliated with the company in any other capacity, such as an employee or significant shareholder. They are often seen as a way to provide oversight and ensure that the company is being run in the best interests of all stakeholders, rather than just the interests of management or a particular group of shareholders.

The finding is explained by the fact that independent directors often bring diverse expertise and perspectives to the boardroom. Their unbiased viewpoints can contribute to more informed and strategic decisions related to cash management. These decisions might include optimizing the timing and amount of cash inflows and outflows, aligning cash reserves with strategic initiatives, and making prudent investment choices that positively impact firm performance. Also Independent directors can play a pivotal role in assessing and mitigating risks that impact a company's cash position. By evaluating potential risks and uncertainties, independent boards can guide the implementation of risk management strategies that help preserve cash reserves and maintain financial stability, ultimately influencing firm performance.

Also the finding relates to the stewardship theory. Stewardship theory emphasizes that managers and directors act as stewards of the firm's resources and interests, seeking to maximize long-term value for shareholders. In the context of this study, independent directors, who are not directly involved in the day-to-day operations of the company, may act as responsible stewards of the firm's cash holdings. They are more likely to make decisions that prioritize the long-term sustainability and growth of the company, as their interests are aligned with those of shareholders. Independent directors, guided by the principles of stewardship, actively seek to enhance shareholder value. Their involvement in cash management decisions ensures that cash reserves are deployed in ways that align with long-term shareholder interests, which can positively impact both ROA and Tobin's Q ratio.

Table 4.6: Board independence, cash holdings and firm performance

	Return on Assets				Tobin's Q ratio			
	Coefficient	Std. Err.	t-stat	P-value	Coefficient	Std. Err.	t-stat	P-value
CSHD	-3.777008	0.2942179	-12.84	0.00***	-4.08795	1.181733	-3.46	0.01***
BI	-0.5353043	0.296212	-1.81	0.10*	0.0051533	0.3880412	0.01	0.99
CSH*BI	4.38534	0.3333511	13.16	0.00***	5.211852	1.255135	4.15	0.00***
Lev	-0.1589302	0.0752349	-2.11	0.06*	0.8433344	0.3944778	2.14	0.06*
Size	0.0465727	0.0490884	0.95	0.36	-0.1814412	0.2214213	-0.82	0.43
Age	-0.0229535	0.0086341	-2.66	0.02**	-0.0827769	0.0367282	-2.25	0.05**
Infl	-0.4092406	0.2319142	-1.76	0.11	0.2407032	1.899821	0.13	0.90
Constant	0.8726833	0.3861198	2.26	0.05**	8.206722	3.321206	2.47	0.03**
OBS	191				191			
R-square	0.83				0.4			
F-stat	835.45***				431.76			

Source: Author's construct (2022), CSHD: cash holdings, BI: board independence, INFL: inflation. LEV: leverage,***: 1% significance level, **: 5% significance level

4.6.3 Institutional Ownership Cash Holdings and Firm Performance

It is seen from table 4.7 that the r-squared is 0.65 and 0.40. This means that independent variables explain 65% and 40% variation in the dependent variable. The f-statistics is significant at the 1 percent level confirming the overall significance of the model. The table shows that the coefficient of the interaction between institutional ownership and cash holdings is -1.389015 for ROA and -4.493646 for Tobin's Q ratio and the p-value is significant at the 5 percent significant level for ROA and at the 1 percent significant level for Tobin's Q ratio. The finding means that institutional ownership negatively moderates the relationship between cash holdings and firm performance. The findings support the studies of Yun, Ahmad, Jebran and Muhammad (2021).

The finding could be explained by the fact that institutional investors seek to satisfy the dividend expectations of local shareholders, focusing on immediate income rather than long-term growth prospects. This leads to a push for higher dividend payouts, potentially at the expense of retaining cash for value-enhancing investments. In the Ghanaian business environment, where share prices of non-financial firms tend to exhibit limited growth, investor preferences are notably skewed toward dividends as a primary source of returns. This dividend-centric investor landscape creates an environment where institutional investors, who manage funds on behalf of individual investors, place significant emphasis on consistent and attractive dividend payouts. As institutional ownership increases, these investors might exert pressure on nonfinancial firms to allocate larger portions of their cash reserves toward dividend distributions.

Table 4.7: Institutional ownership cash holdings and firm performance

	Return on Assets				Tobin's Q ratio			
	Coefficient	Std. Err.	t-stat	P-value	Coefficient	Std. Err.	t-stat	P-value
CSHD	1.12683	0.475444	2.37	0.04**	3.922942	0.9631252	4.07	0.00***
INSTOW	-0.1286063	0.134284	-0.96	0.36	1.429757	0.5778212	2.47	0.03**
CSHD*INSTOW	-1.389015	0.6309508	-2.2	0.05**	-4.493646	1.275362	-3.52	0.01***
Lev	0.7014187	0.1000037	7.01	0.00***	1.518518	0.2756301	5.51	0.00***
Size	0.0181692	0.0323927	0.56	0.59	-0.3709948	0.2729104	-1.36	0.20
Age	-0.0164804	0.0083421	-1.98	0.07*	-0.0451008	0.0413266	-1.09	0.30
infl	-0.4276004	0.4704703	-0.91	0.38	0.7338528	1.672348	0.44	0.67
Constant	0.1965842	0.2275916	0.86	0.41	8.502969	3.450722	2.46	0.03**
OBS	191				191			
R-square	0.65				0.4			
F-stat	12.55***				11.59***			

Source: Author's construct (2022), CSHD: cash holdings, INSTOW: institutional ownership, INFL: inflation. LEV: leverage,***: 1% significance level, **: 5% significance level, *: 10% significance level

The finding is explained by the free cash flow theory. The Free cash flow theory posits that when firms generate excess cash beyond their operational and investment needs, there is a risk of this "free cash flow" being misallocated or wasted on non-value-enhancing activities. These activities might include inefficient acquisitions, unproductive investments, or excessive dividends and share buybacks. The theory suggests that firms with high levels of free cash flow are more susceptible to making suboptimal decisions that negatively impact firm performance. The presence of institutional investors could exert additional pressure on non-financial firms to deploy cash, potentially leading to misallocation of resources. These firms might feel compelled to distribute dividends or engage in share buybacks to satisfy short-term investor expectations, rather than investing in projects that contribute to long-term firm performance.

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATION AND CONCLUSION

5.1 Introduction

This chapter presents a summary of the overall studies. The chapter is presented in three main sections. Summary of the findings are presented followed by a conclusion of the study and recommendations are presented as well.

5.2 Summary of Findings

The study finds that cash holdings have a positive relationship with firm performance, and the relationship is significant at the 1% level for Tobin's Q ratio and the 5% level for ROA. The finding implies that an increase in cash holdings leads to an increase in the performance of firms.

The study further finds that board independence positively moderates the relationship between cash holdings and firm performance. The p-value of the interaction term is significant at the 1% level for both Tobin's Q ratio and ROA. The finding means that the relationship between cash holdings and firm performance strengthens when the board is more independent.

It was further discovered that institutional ownership negatively moderates the relationship between cash holdings and firm performance. The p-value of the interaction term is significant at the 5 percent significant level for ROA and at the 1 percent significant level for Tobin's Q ratio. The finding means that the relationship between cash holdings and firm performance weakens when there are more institutional investors.

5.3 Conclusion

This study examines the effect of cash holdings on firm performance with corporate governance as moderating variable. The time horizon is twelve (12) years from 2010 to 2021, involving eighteen (18) non-financial firms. The study is quantitative, and multiple regression is employed to analyse the data. The findings suggest that cash holdings can have a positive impact on firm performance, but this relationship is influenced by factors such as board independence and institutional ownership. Overall, the findings emphasize the importance of carefully managing cash holdings and considering the broader context in which they are situated, including corporate governance and ownership structures.

Firms should aim to maintain a balance between cash reserves and investments in growth opportunities, while also considering the potential moderating effects of board independence and institutional ownership. Additionally, firms should focus on attracting institutional investors who can bring capital, expertise, and credibility to the firm, while also implementing effective communication, investor relations, and marketing strategies.

5.4 Recommendation

Non-financial firms should optimise their cash management strategies for long-term growth. They can achieve this by conducting a thorough analysis of the company's cash flows, considering both inflows and outflows. Determine the optimal level of cash reserves required to meet operational needs, invest in growth initiatives, navigate economic uncertainties, and Consider allocating cash towards research and development, market expansion, technology upgrades, and other initiatives that

enhance competitive advantage and firm performance. By optimising their cash management strategy, firms can ensure that they have the right amount of cash on hand to meet their short-term needs while also investing in growth initiatives that will benefit the company in the long term.

Non-financial firms should strengthen independent board oversight and governance practises. This can be achieved by actively recruiting independent directors who possess diverse skills, experiences, and industry insights and also Providing ongoing training and development opportunities for board members to enhance their understanding of financial management, industry trends, and emerging governance practises. By strengthening independent board oversight and governance practises, firms can ensure that their boards are made up of directors who are not beholden to management and who are committed to acting in the best interests of shareholders. This can lead to better decision-making about cash management, which can in turn lead to improved firm performance.

Non-financial firms should foster constructive engagement with institutional investors. This can be achieved by developing a comprehensive investor relations strategy that communicates the company's long-term vision, growth strategy, and commitment to shareholder value, as well as providing clear and transparent information about cash management decisions and investment priorities. By fostering constructive engagement with institutional investors, firms can build relationships with investors who are committed to long-term growth and who can provide valuable insights and support. This can help firms make better decisions about cash management and avoid making decisions that are not in the best interests of shareholders.

5.5 Recommendation for Further Studies

Further studies can investigate the impact of different types of cash holdings on firm performance, such as short-term vs. long-term cash reserves or cash held for specific purposes (e.g., investments, acquisitions, R&D, etc.). Also researchers can examine how the impact of cash holdings on firm performance varies across different industries or sectors, given that firms in different industries may have varying levels of cash requirements and opportunities for growth. Finally, further studies can explore the potential mediating effects of other financial and non-financial factors on the relationship between cash holdings and firm performance, such as debt levels, profitability, risk, innovation, and corporate social responsibility.

Reference

Abadie, A. and Cattaneo, M.D., 2018. Econometric methods for program evaluation. *Annual Review of Economics*, *10*, pp.465-503.

Abdelfattah, T. and Aboud, A., 2020. Tax avoidance, corporate governance, and corporate social responsibility: The case of the Egyptian capital market. *Journal of International Accounting, Auditing and Taxation*, *38*, p.100304.

Ahsan, T., Mirza, S.S., Al-Gamrh, B. and Bin-Feng, C., 2020. How to deal with policy uncertainty to attain sustainable growth: the role of corporate governance. *Corporate Governance: The International Journal of Business in Society*.

Alnori, F., 2020. Cash holdings: Do they boost or hurt firms' performance? Evidence from listed non-financial firms in Saudi Arabia. *International Journal of Islamic and Middle Eastern Finance and Management*.

Anjum, N., Khan, F., Hassan, S. and Arif, M., 2020. Impact of Cash Holding on Firm Performance with Moderating Role of Corporate Governance. *Journal of Business & Tourism*, *6*(2), pp.87-99.

Arfan, M., Basri, H., Handayani, R., Shabri, M., Fahlevi, H. and Dianah, A., 2017. Determinants of cash holding of listed manufacturing companies in the Indonesian stock exchange. *DLSU Business and Economics Review*, *26*(2), pp.1-12.

Asante-Darko, D., Bonsu, B.A., Famiyeh, S., Kwarteng, A. and Goka, Y., 2018. Governance structures, cash holdings and firm value on the Ghana Stock Exchange. *Corporate Governance: The International Journal of Business in Society*.

Aslam, E., Kalim, R. and Fizza, S., 2019. Do cash holding and corporate governance structure matter for the performance of firms? Evidence from KMI 30-and KSE 100-indexed firms in Pakistan. *Global Business Review*, *20*(2), pp.313-330.

Bansal, M., 2021. Board independence and earnings management: influence of family business generation. *Journal of Asia Business Studies*.

Bătae, O.M., Dragomir, V.D. and Feleagă, L., 2021. The relationship between environmental, social, and financial performance in the banking sector: A European study. *Journal of Cleaner Production*, *290*, p.125791.

Croissant, Y. and Millo, G., 2019. *Panel data econometrics with R*. Wiley.

DasGupta, R., 2022. Financial performance shortfall, ESG controversies, and ESG performance: Evidence from firms around the world. *Finance Research Letters*, *46*, p.102487.

Din, S.U., Khan, M.A., Khan, M.J. and Khan, M.Y., 2021. Ownership structure and corporate financial performance in an emerging market: a dynamic panel data analysis. *International Journal of Emerging Markets*.

Doan, T., 2020. The effect of cash holdings on firm performance: Evidence from Vietnam listed firms. *Accounting*, *6*(5), pp.721-726.

Fahad, P. and Rahman, P.M., 2020. Impact of corporate governance on CSR disclosure. *International Journal of Disclosure and Governance*, *17*(2), pp.155-167.

Fama, E.F. and Jensen, M.C., 1983. Separation of ownership and control. *The journal of law and Economics*, *26*(2), pp.301-325.

Fan, Z., Radhakrishnan, S. and Zhang, Y., 2021. Corporate governance and earnings management: evidence from shareholder proposals. *Contemporary Accounting Research*, *38*(2), pp.1434-1464.

Farooq, M., Noor, A. and Ali, S., 2021. Corporate governance and firm performance: empirical evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society*.

Gravetter, F.J. and Forzano, L.A.B., 2018. *Research methods for the behavioral sciences*. Cengage learning.

Habib, A., Bhatti, M.I., Khan, M.A. and Azam, Z., 2021. Cash holding and firm value in the presence of managerial optimism. *Journal of Risk and Financial Management*, *14*(8), p.356.

Huang, Y., Elkinawy, S. and Jain, P.K., 2013. Investor protection and cash holdings: Evidence from US cross-listing. *Journal of banking & finance*, *37*(3), pp.937-951.

Hunjra, A.I., Tayachi, T., Mehmood, R. and Hussain, A., 2021. Does economic risk affect corporate cash holdings?. *Journal of Economic and Administrative Sciences*.

Jensen, M.C. and Meckling, W.H., 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate Governance* (pp. 77-132). Gower.

Jensen, M.C., 1986. Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, *76*(2), pp.323-329.

Keynes, J.M., 1936. The general theory of employment, interest and money Macmillan Cambridge University Press Cambridge UK.

La Rocca, M. and Cambrea, D.R., 2019. The effect of cash holdings on firm performance in large Italian companies. *Journal of International Financial Management & Accounting*, *30*(1), pp.30-59.

Laporšek, S., Dolenc, P., Grum, A. and Stubelj, I., 2021. Ownership structure and firm performance–The case of Slovenia. *Economic Research-Ekonomska Istraživanja*, *34*(1), pp.2975-2996.

Le, H., Tran, P.L., Ta, T.P. and Vu, D.M., 2018. Determinants of corporate cash holding: Evidence from UK listed firms. *Business and Economic Horizons*, *14*(3), pp.561-569.

Lei, X.T., Xu, Q.Y. and Jin, C.Z., 2022. Nature of property right and the motives for holding cash: Empirical evidence from Chinese listed companies. *Managerial and Decision Economics*, *43*(5), pp.1482-1500.

Martínez-Sola, C., García-Teruel, P.J. and Martínez-Solano, P., 2013. Corporate cash holding and firm value. *Applied Economics*, *45*(2), pp.161-170.

Myers, S.C. and Majluf, N.S., 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, *13*(2), pp.187-221.

Myers, S.C., 1977. Determinants of corporate borrowing. *Journal of financial economics*, *5*(2), pp.147-175.

Nguyen, H.A., Lien Le, Q. and Anh Vu, T.K., 2021. Ownership structure and earnings management: Empirical evidence from Vietnam. *Cogent Business & Management*, *8*(1), p.1908006.

Nicolò, G., Zampone, G., Sannino, G. and De Iorio, S., 2021. Sustainable corporate governance and non-financial disclosure in Europe: does the gender diversity matter?. *Journal of Applied Accounting Research*.

Okafor, A., Adeleye, B.N. and Adusei, M., 2021. Corporate social responsibility and financial performance: Evidence from US tech firms. *Journal of Cleaner Production*, *292*, p.126078.

Ruwanti, G., Chandrarin, G. and Assih, P., 2019. The Influence of Corporate Governance in The Relationship of Firm Size and Leverage on Earnings Management. *International Journal of Innovative Science and Research Technology*, *4*(8), pp.142-147.

Tran, M.D. and Dang, N.H., 2021. The Impact of Ownership Structure on Earnings Management: The Case of Vietnam. *SAGE Open*, *11*(3), p.21582440211047248.

Tran, Q.T., 2020. Corruption and corporate cash holdings: international evidence. *Journal of Multinational Financial Management*, *54*, p.100611.

Tulung, J.E. and Ramdani, D., 2018. Independence, size and performance of the board: An emerging market research. *Corporate Ownership & Control*, *15*(2).

Ullah, S. and Kamal, Y., 2018. Corporate cash holdings and shareholder wealth: evidence from Pakistani market. *Pakistan Business Review*, *19*(4), pp.978-994.

Uribe-Bohorquez, M.V., Martínez-Ferrero, J. and García-Sánchez, I.M., 2018. Board independence and firm performance: The moderating effect of institutional context. *Journal of Business Research*, *88*, pp.28-43.

Xiong, F., Zheng, Y., An, Z. and Xu, S., 2021. Does internal information quality impact corporate cash holdings? Evidence from China. *Accounting & Finance*, *61*, pp.2151-2171.

Yun, J., Ahmad, H., Jebran, K. and Muhammad, S., 2021. Cash holdings and firm performance relationship: Do firm-specific factors matter?. *Economic Research-Ekonomska Istraživanja*, *34*(1), pp.1283-1305.

APPENDIX

OBJECTIVE ONE

ROA

```
Regression with Driscoll-Kraay standard errors   Number of obs      =       191
Method: Fixed-effects regression                 Number of groups   =        18
Group variable (i): id                           F(  5,     11)     =     16.17
maximum lag: 2                                   Prob > F           =    0.0001
                                                 within R-squared   =    0.6239
```

ROA	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	.0440373	.0219095	2.01	0.070	-.0041853	.0922598
Lev	.799244	.1400168	5.71	0.000	.4910692	1.107419
SIZE	.00505	.0186506	0.27	0.792	-.0359998	.0460997
Age	-.0184472	.0071168	-2.59	0.025	-.0341113	-.0027831
infl	-.2366002	.4830827	-0.49	0.634	-1.299858	.8266577
_cons	.3858852	.1501458	2.57	0.026	.0554166	.7163539

Command

```
Regression with Driscoll-Kraay standard errors   Number of obs      =       191
Method: Fixed-effects regression                 Number of groups   =        18
Group variable (i): id                           F(  5,     11)     =     16.17
maximum lag: 2                                   Prob > F           =    0.0001
                                                 within R-squared   =    0.6239
```

ROA	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	.0440373	.0219095	2.01	0.070	-.0041853	.0922598
Lev	.799244	.1400168	5.71	0.000	.4910692	1.107419
SIZE	.00505	.0186506	0.27	0.792	-.0359998	.0460997
Age	-.0184472	.0071168	-2.59	0.025	-.0341113	-.0027831
infl	-.2366002	.4830827	-0.49	0.634	-1.299858	.8266577
_cons	.3858852	.1501458	2.57	0.026	.0554166	.7163539

TOBIN'S Q RATIO

```
Regression with Driscoll-Kraay standard errors   Number of obs      =       191
Method: Fixed-effects regression                 Number of groups   =        18
Group variable (i): id                           F(  5,     11)     =     86.71
maximum lag: 2                                   Prob > F           =    0.0000
                                                 within R-squared   =    0.3693
```

TQ	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	.4584906	.1327865	3.45	0.005	.1662295	.7507517
Lev	1.997188	.2957078	6.75	0.000	1.346339	2.648036
SIZE	-.214095	.2171367	-0.99	0.345	-.6920098	.2638197
Age	-.080418	.0376435	-2.14	0.056	-.1632708	.0024348
infl	.2680811	1.699513	0.16	0.878	-3.472522	4.008685
_cons	7.961402	2.979815	2.67	0.022	1.402874	14.51993

.

Command


```
Regression with Driscoll-Kraay standard errors   Number of obs      =       191
Method: Fixed-effects regression                 Number of groups   =        18
Group variable (i): id                           F(  5,     11)     =     86.71
maximum lag: 2                                   Prob > F           =    0.0000
                                                 within R-squared   =    0.3693
```

TQ	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	.4584906	.1327865	3.45	0.005	.1662295	.7507517
Lev	1.997188	.2957078	6.75	0.000	1.346339	2.648036
SIZE	-.214095	.2171367	-0.99	0.345	-.6920098	.2638197
Age	-.080418	.0376435	-2.14	0.056	-.1632708	.0024348
infl	.2680811	1.699513	0.16	0.878	-3.472522	4.008685
_cons	7.961402	2.979815	2.67	0.022	1.402874	14.51993

OBJECTIVE TWO

ROA

```
Regression with Driscoll-Kraay standard errors   Number of obs     =       191
Method: Fixed-effects regression                 Number of groups  =        18
Group variable (i): id                           F(  7,     11)    =    835.45
maximum lag: 2                                   Prob > F          =    0.0000
                                                 within R-squared  =    0.8335
```

ROA	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	-3.777008	.2942179	-12.84	0.000	-4.424578	-3.129439
BI	-.5353043	.296212	-1.81	0.098	-1.187263	.116654
CSHBI	4.38534	.3333511	13.16	0.000	3.651639	5.11904
Lev	-.1589302	.0752349	-2.11	0.058	-.3245211	.0066606
SIZE	.0465727	.0490884	0.95	0.363	-.0614702	.1546156
Age	-.0229535	.0086341	-2.66	0.022	-.0419571	-.00395
infl	-.4092406	.2319142	-1.76	0.105	-.9196804	.1011992
_cons	.8726833	.3861198	2.26	0.045	.0228395	1.722527


```
Regression with Driscoll-Kraay standard errors   Number of obs     =       191
Method: Fixed-effects regression                 Number of groups  =        18
Group variable (i): id                           F(  7,     11)    =    835.45
maximum lag: 2                                   Prob > F          =    0.0000
                                                 within R-squared  =    0.8335
```

ROA	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	-3.777008	.2942179	-12.84	0.000	-4.424578	-3.129439
BI	-.5353043	.296212	-1.81	0.098	-1.187263	.116654
CSHBI	4.38534	.3333511	13.16	0.000	3.651639	5.11904
Lev	-.1589302	.0752349	-2.11	0.058	-.3245211	.0066606
SIZE	.0465727	.0490884	0.95	0.363	-.0614702	.1546156
Age	-.0229535	.0086341	-2.66	0.022	-.0419571	-.00395
infl	-.4092406	.2319142	-1.76	0.105	-.9196804	.1011992
_cons	.8726833	.3861198	2.26	0.045	.0228395	1.722527

TOBINS Q RATIO

```
Regression with Driscoll-Kraay standard errors   Number of obs      =        191
Method: Fixed-effects regression                 Number of groups   =         18
Group variable (i): id                           F(  7,     11)     =    4311.76
maximum lag: 2                                   Prob > F           =     0.0000
                                                 within R-squared   =     0.3922
```

TQ	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	-4.08795	1.181733	-3.46	0.005	-6.688926	-1.486973
BI	.0051533	.3880412	0.01	0.990	-.8489197	.8592262
CSHBI	5.211852	1.255135	4.15	0.002	2.449318	7.974386
Lev	.8433344	.3944778	2.14	0.056	-.0249054	1.711574
SIZE	-.1814412	.2214213	-0.82	0.430	-.6687861	.3059037
Age	-.0827769	.0367282	-2.25	0.046	-.1636152	-.0019386
infl	.2407032	1.899821	0.13	0.901	-3.940775	4.422181
_cons	8.206722	3.321206	2.47	0.031	.8967973	15.51665


```
Regression with Driscoll-Kraay standard errors   Number of obs      =        191
Method: Fixed-effects regression                 Number of groups   =         18
Group variable (i): id                           F(  7,     11)     =    4311.76
maximum lag: 2                                   Prob > F           =     0.0000
                                                 within R-squared   =     0.3922
```

TQ	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	-4.08795	1.181733	-3.46	0.005	-6.688926	-1.486973
BI	.0051533	.3880412	0.01	0.990	-.8489197	.8592262
CSHBI	5.211852	1.255135	4.15	0.002	2.449318	7.974386
Lev	.8433344	.3944778	2.14	0.056	-.0249054	1.711574
SIZE	-.1814412	.2214213	-0.82	0.430	-.6687861	.3059037
Age	-.0827769	.0367282	-2.25	0.046	-.1636152	-.0019386
infl	.2407032	1.899821	0.13	0.901	-3.940775	4.422181
_cons	8.206722	3.321206	2.47	0.031	.8967973	15.51665

OBJECTIVE THREE

ROA

```
Regression with Driscoll-Kraay standard errors   Number of obs      =       191
Method: Fixed-effects regression                 Number of groups   =        18
Group variable (i): id                           F(  7,     11)     =     12.55
maximum lag: 2                                   Prob > F           =    0.0002
                                                 within R-squared   =    0.6524
```

ROA	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	1.12683	.475444	2.37	0.037	.0803851	2.173275
INSTO	-.1286063	.134284	-0.96	0.359	-.4241633	.1669507
CSHDINSTO	-1.389015	.6309508	-2.20	0.050	-2.777728	-.0003013
Lev	.7014187	.1000037	7.01	0.000	.481312	.9215255
SIZE	.0181692	.0323927	0.56	0.586	-.0531268	.0894651
Age	-.0164804	.0083421	-1.98	0.074	-.0348412	.0018804
infl	-.4276004	.4704703	-0.91	0.383	-1.463099	.6078978
_cons	.1965842	.2275916	0.86	0.406	-.3043415	.6975099

.


```
Regression with Driscoll-Kraay standard errors   Number of obs      =       191
Method: Fixed-effects regression                 Number of groups   =        18
Group variable (i): id                           F(  7,     11)     =     12.55
maximum lag: 2                                   Prob > F           =    0.0002
                                                 within R-squared   =    0.6524
```

ROA	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	1.12683	.475444	2.37	0.037	.0803851	2.173275
INSTO	-.1286063	.134284	-0.96	0.359	-.4241633	.1669507
CSHDINSTO	-1.389015	.6309508	-2.20	0.050	-2.777728	-.0003013
Lev	.7014187	.1000037	7.01	0.000	.481312	.9215255
SIZE	.0181692	.0323927	0.56	0.586	-.0531268	.0894651
Age	-.0164804	.0083421	-1.98	0.074	-.0348412	.0018804
infl	-.4276004	.4704703	-0.91	0.383	-1.463099	.6078978
_cons	.1965842	.2275916	0.86	0.406	-.3043415	.6975099

TOBIN'S Q RATIO

```
Regression with Driscoll-Kraay standard errors   Number of obs     =        191
Method: Fixed-effects regression                 Number of groups  =         18
Group variable (i): id                           F(  7,     11)    =     111.59
maximum lag: 2                                   Prob > F          =     0.0000
                                                 within R-squared  =     0.3951
```

TQ	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	3.922942	.9631252	4.07	0.002	1.803118	6.042766
INSTO	1.429757	.5778212	2.47	0.031	.1579807	2.701533
CSHDINSTO	-4.493646	1.275362	-3.52	0.005	-7.300697	-1.686594
Lev	1.518518	.2756301	5.51	0.000	.9118607	2.125176
SIZE	-.3709948	.2729104	-1.36	0.201	-.9716666	.229677
Age	-.0451008	.0413266	-1.09	0.298	-.1360601	.0458584
infl	.7338528	1.672348	0.44	0.669	-2.946959	4.414665
_cons	8.502969	3.450722	2.46	0.031	.907981	16.09796

.


```
Regression with Driscoll-Kraay standard errors   Number of obs     =        191
Method: Fixed-effects regression                 Number of groups  =         18
Group variable (i): id                           F(  7,     11)    =     111.59
maximum lag: 2                                   Prob > F          =     0.0000
                                                 within R-squared  =     0.3951
```

TQ	Coef.	Drisc/Kraay Std. Err.	t	P>|t|	[95% Conf.	Interval]
CSHD	3.922942	.9631252	4.07	0.002	1.803118	6.042766
INSTO	1.429757	.5778212	2.47	0.031	.1579807	2.701533
CSHDINSTO	-4.493646	1.275362	-3.52	0.005	-7.300697	-1.686594
Lev	1.518518	.2756301	5.51	0.000	.9118607	2.125176
SIZE	-.3709948	.2729104	-1.36	0.201	-.9716666	.229677
Age	-.0451008	.0413266	-1.09	0.298	-.1360601	.0458584
infl	.7338528	1.672348	0.44	0.669	-2.946959	4.414665
_cons	8.502969	3.450722	2.46	0.031	.907981	16.09796