

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

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COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

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KNUST

**CASH FLOW RATIO ANALYSIS AND FINANCIAL PERFORMANCE OF LISTED
FIRMS IN GHANA.**

BY

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(MBA)

**A THESIS SUBMITTED TO THE COLLEGE OF HUMANITIES AND SOCIAL
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DEDICATION

I dedicate this thesis to God Almighty my creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this programme and on His wings only have I soared.

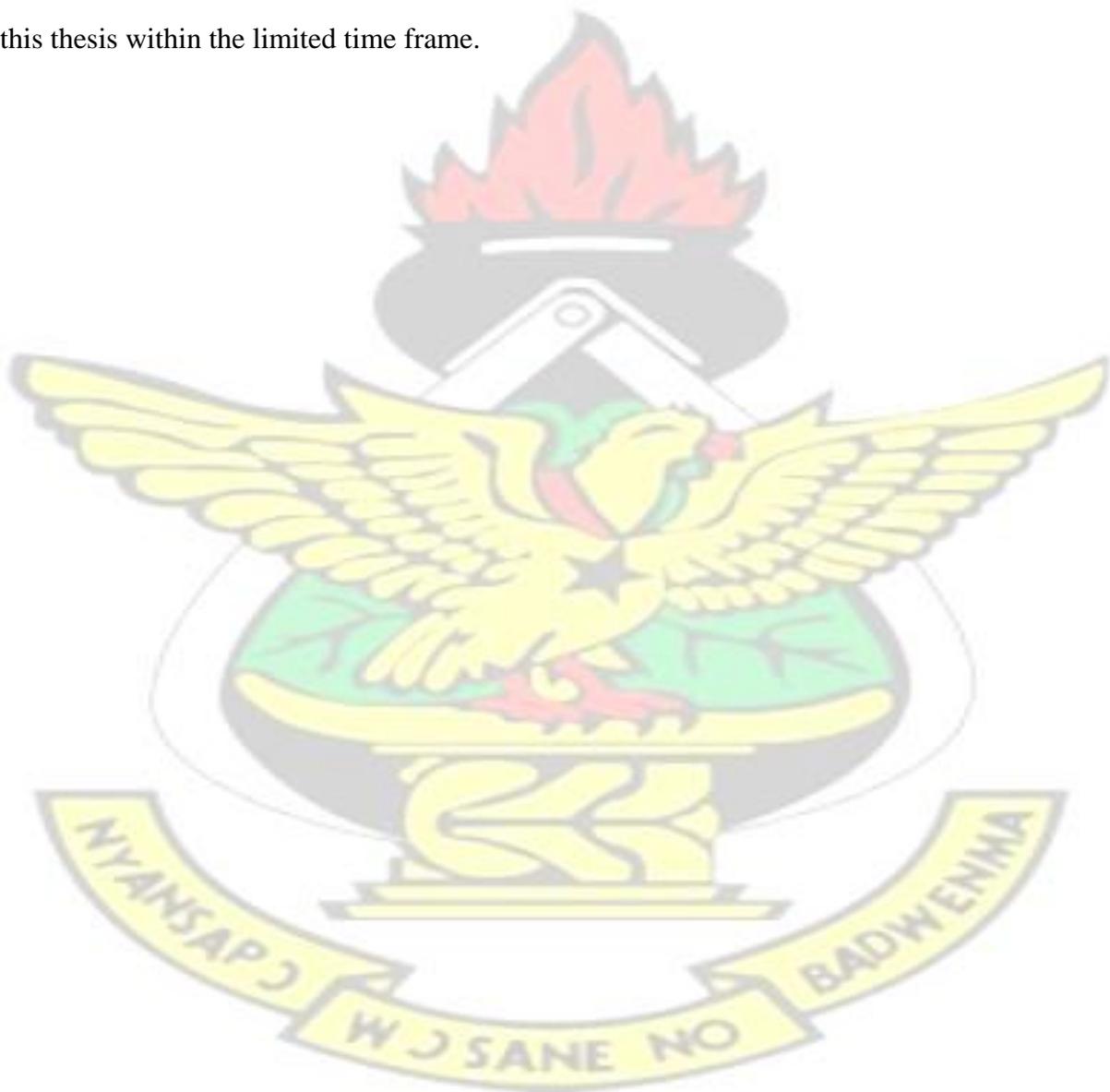
I also dedicate it to my family and Wife, Rita Donkor and my children Nana Adwoa Adomako, Awura Adwoa Adomako , Maafia Owusuah Adomako and Abena Koran Adepa Adomako for their love and prayer through out my programme of study.



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ABSTRACT

Cash inflows and outflows are the lifeblood of and the key determinant of firm value. Also, cash as the lifeblood of any business means, it is a vital component required for effective management. The current study is motivated by the lack of an updated approach to appraising financial profitability which may not present the true nature of the growing economy of Ghana thus, the need for a robust approach to enhance the appeal to investors. Financial analysis based on standard ratios, such as return on assets and net sales to income, can often overestimate or underestimate financial results, leading to a flawed assessment of a company's financial health. Therefore, this study uses cash flow ratios as a more reliable method to determine how much revenue a company has produced.

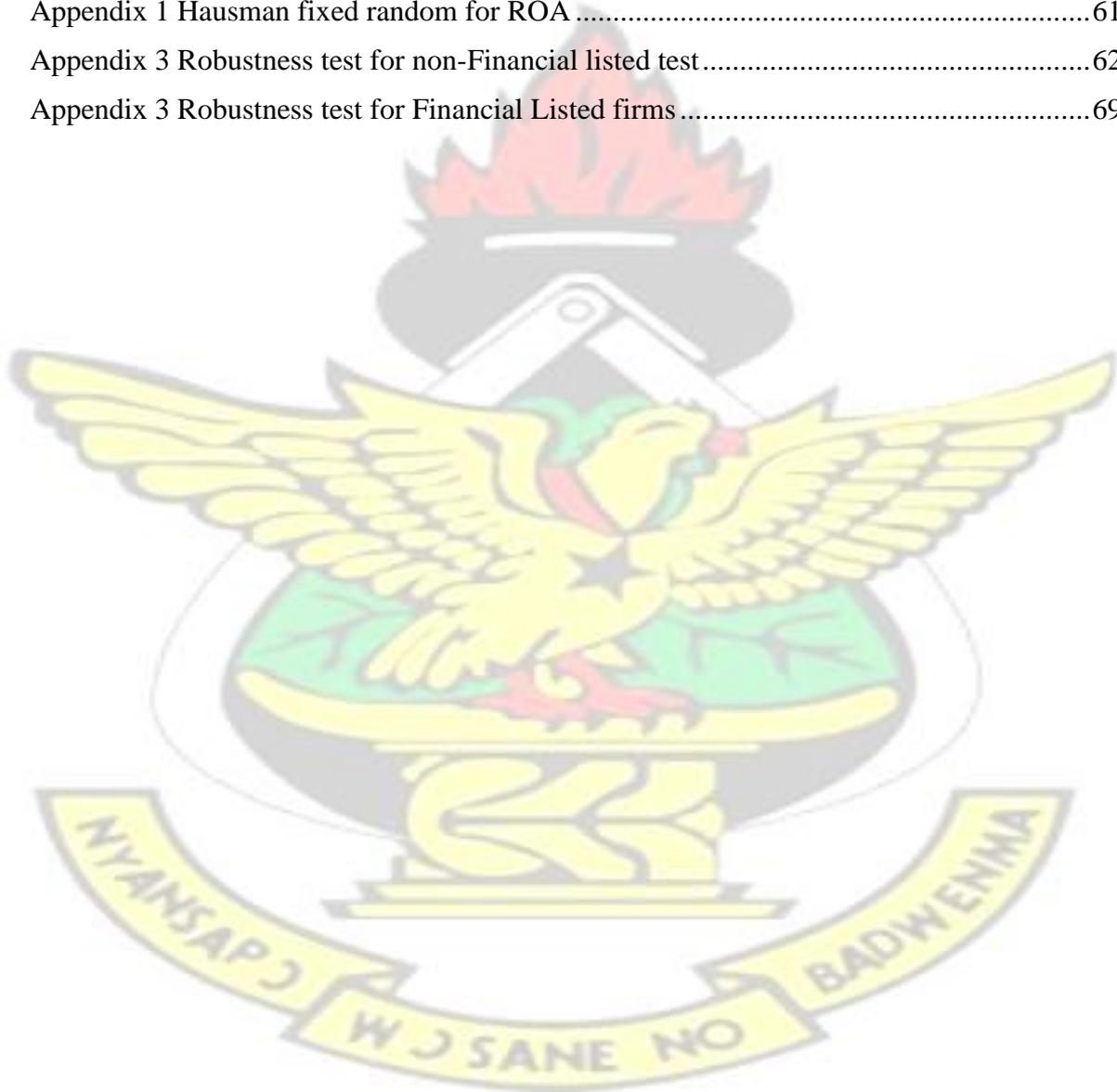
This study aims to evaluate the impact of cash flow analysis on the financial performance of listed firms in Ghana. The sample consists of 16 firms quoted on the Ghana Stock Exchange, covering the period from 2012 to 2021. Data were obtained from secondary sources, and financial performance was assessed using regression analysis. The study found that cash flow from financial activities has a significant impact on the performance of listed firms measured by return on equity (ROE). The study recommends that listed companies in Ghana adopt cash flow analysis as a robust method to evaluate financial profitability. This approach can increase the attractiveness of these companies to potential investors in Ghana's growing economy.

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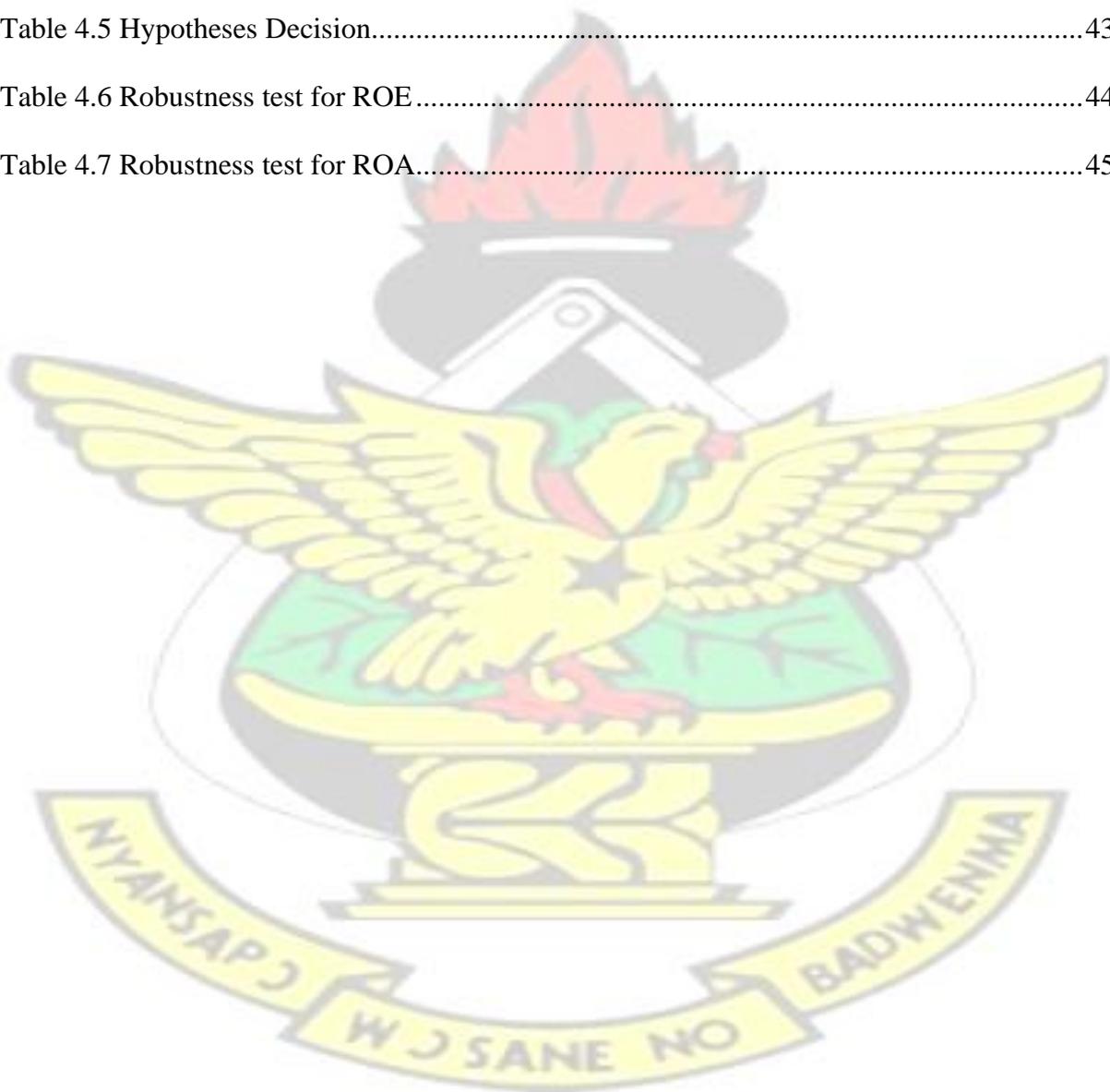
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CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background to the Study

The outcomes of a company's policies and operations are quantified in monetary terms and reflected in its return on investment, return on assets, return on equity, and value-added, among other metrics. According to Amuzu (2010), an enterprise must produce enough cash by running, investing, and financing to achieve its performance goal. A company should, therefore, come up with various strategies to select the cash flow components used in its operations to improve productivity or achieve success.

Cash inflows and outflows are the lifeblood of firms (Güleç and Bektaş, 2019) and the key determinant of firm value (Günay and Ecer, 2020). Günay and Ecer (2020) add that it is the most important item to the firm. According to Liman and Mohammed (2018), cash as the lifeblood of any business means, is a vital component required for effective management. They continue that poor cash management has the power to bankrupt even profitable companies. Put it vividly, Gatumo and Omukaga (2019) elaborate that a company will find it exceedingly challenging to make acquisitions, develop new goods, pay dividends to its shareholders, or pay down debt if it lacks cash.

Numbers on financial statements alone do not offer significant information or meaning (Tofeeq, 1997). A number's significance emerges when compared with another (Tofeeq, 1997). According to Amuzu (2010), cash flow information provides users with essential

information about the use and source of financial resources during a given period. Cash flow analysis significantly impacts firm value (Günay and Ecer, 2020; Dewi et al., 2019). A company's ability to generate cash flows is a crucial determinant of its value (Günay and Ecer, 2020). Stakeholders use the statement of cash flow to evaluate a company's ability to generate future net cash flows, meet its obligations, pay dividends, and determine its needs for external financing (Günay and Ecer, 2020).

To users of financial data such as investors, managers, lenders, bankers, etc., the cash flow statement aids the effectiveness of investment decisions by providing required and complementary information to traditional financial statements (Alslehat and Al-Nimer, 2017; Günay and Ecer, 2020). Güleç and Bektaş (2019) expound that cash flow-based information offers a better understanding of financial data. As a result, it is superior to net income since earnings are flexible. The cash flow statement reveals the amount of cash the company has on hand as well as how daily transactions are financed. Despite being prosperous, businesses with poor cash flow struggle to finance their operations. A company should have enough cash on hand to pay for current liabilities, cover daily expenses, and buy the assets it needs for operations (Güleç and Bektaş, 2019).

Operating cash flow, as used in financial accounting, refers to the money made through a company's regular operations (Liman and Mohammed, 2018). Cash flows include operating cash flow, net capital expenditure financing cash flow (Günay and Ecer, 2020; Liman and Mohammed, 2018), investment cash flow, finance cash flow (Wickramasinghe and Gunawardane, 2017; Alslehat and AL-Nimer, 2017), cash balance (Alslehat and AL-Nimer, 2017), etc. The statement of cash flows provides financial data users with valuable information about traditional financial ratio analysis, based on accrual basis accounting

procedures such as net profit, and evaluates the business in terms of profitability (Güleç and Bektaş, 2019). However, cash flow ratio analysis provides a different perspective to financial statement users on the company's solvency, liquidity, and viability. Liman and Mohammed (2018) argue that profitability does not necessarily mean solvency because profit is not cash. Therefore, a firm's solvency, flexibility, and financial performance depend on its ability to generate positive cash flows from operating, investing, and financing activities (Liman and Mohammed, 2018). Financial ratio management in terms of liquidity, solvency, and profitability is critical for financial performance as it directly affects business profitability (Agbata et al., 2021). Thus, inadequate cash flow planning for operating activities can harm financial performance by reducing cash inflows and increasing cash outflows.

This chapter highlights the challenges faced by companies in achieving and sustaining performance due to rising competition in global markets and the foundation of financial statement analysis, which is ratio analysis and the need for a reliable method to determine a company's financial health. The study aims to fill the void in available literature by investigating the impact of cash flow on a company's financial performance.

1.2 Problem Statement

Dodoo et al. (2021) expound that the study of firm performance is important because it has an impact on macroeconomic variables like economic growth and employment. Companies face challenges in achieving and sustaining performance due to the rising competition in global markets. Performance evaluation is one of the biggest financial issues businesses confront because they use a variety of financial resources and operating strategies to maximize returns for their investors (Liman and Mohammed, 2018). Financial

analysis relies on accounting performance through profitability indicators like return on assets and net sales to income, among others (Amuzu, 2010). However, Günay and Ecer (2020) claim that standard ratios can occasionally overestimate or underestimate financial results due to the underlying flaws of "accrual-based accounting," which are its defining traits (Amuzu, 2010). *Cash flow ratios are advised* to measure sensitive financial performance and give a clearer picture of a company's financial health (Günay and Ecer, 2020).

Ratio analysis is the foundation of financial statement analysis, which is used to compare financial performance or to get a rapid read on a company's performance in areas like liquidity and profitability (Güleç and Bektaş, 2019). Given that it accounts for receivables, depreciation, and liabilities, operating cash flow may be viewed as a more reliable method to determine how much revenue a company has produced (Liman and Mohammed, 2018). Contrary to traditional profitability metrics like net income, an entity's many fixed assets harm net income due to depreciation. Unfortunately, compared to the other key financial statements, the application of cash flow analysis is not as widespread (Amuzu, 2010; Güleç and Bektaş, 2019).

Previous works (Güleç and Bektaş, 2019; Liman and Mohammed, 2018; Güleç and Bektaş, 2019) empirically analyze the factors that influence company's performance from a variety of angles. However, these studies are mainly conducted elsewhere in Europe, Asia, or Nigeria. The few conducted in Ghana (Obeng-Krampah, 2018; Dodoo et al., 2021) concentrate on other factors influencing performance rather than cash flow analysis. Additionally, the study by Dodoo et al. (2021) finds evidence that the cash flow ratio (CFR) significantly and positively affects a firm's performance in Ghana. Despite the

many empirical studies that undertake on the factors that affect firm performance, there is still much to learn about this problem (Dodoo et al., 2021).

The current study aims to address the lack of a current approach to appraising financial profitability that may not present the true nature of the growing economy of Ghana and the need for a robust approach to enhance the appeal to investors.

1.3 Research Objectives

This study seeks to achieve the following objectives:

- I. Evaluate the effect of cash flow from operating activities on the performance of listed firms.
- II. Assess the effects of cash flow from investing activities on the performance of listed firms.
- III. Determine the effect of cash flow from financial activities on the performance of listed firms.

1.4 Research Questions

- I. What is the effect of net cash flow from operating activities on the performance of listed firms?
- II. What are the effects of cash flow from investing activities on the performance of listed firms?
- III. What is the effect of cash flow from financing activities on the performance of listed firms?

1.5 Significance of the Study

Studying cash flow analysis is important because it has a significant impact on a company's financial performance and stability. According to existing research literature, cash flow is a crucial indicator of a company's ability to meet its financial obligations and make strategic investments. Companies with positive cash flow are more likely to be financially stable and less likely to go bankrupt. Additionally, cash flow analysis can be used to identify potential financial risks and opportunities, making it an important tool for financial decision-making. Furthermore, cash flow analysis is important for predicting a company's future performance and assessing its creditworthiness.

This study aims to investigate whether the positive investment and cash flow relationship observed in most developed countries is true in the context of Ghana's unique business environment. The study focuses on listed firms on the Ghana Stock Exchange and makes significant contributions to the existing literature on cash ratio analysis in Ghana. The findings of this study will benefit both practitioners and researchers and provide input for further research activities. Additionally, the study's recommendations would help business managers of these listed firms appreciate the role of cash flow analysis and improve the performance of their businesses.

1.6 Study Scope

The objective of this research study is to investigate the effectiveness of cash flow ratios as a performance measure in a developing country. Developing countries are often defined as those that are currently undergoing or have undergone a process of globalization (Amuzu, 2010). Cash flow analysis is a widely used tool for assessing financial data by

various stakeholders, including investors. Günay and Ecer (2020) note that the statement of cash flow is used to evaluate a company's ability to generate future cash flows, meet its financial obligations, pay dividends, and its need for external financing. Additionally, the impact of cash flow analysis on firm value is emphasised by Günay and Ecer (2020) and Dewi et al. (2019). Therefore, emerging economies represent an attractive ground for private companies, investment projects, and quoting firms to attract potential investors by offering superior profits and productivity, while also adopting world-class management practices and opening their borders to facilitate international trade and investment.

1.7 Limitations

It is important to note that the findings are limited to the context of listed firms on the Ghana Stock Exchange. Therefore, caution is exercised when generalizing these findings to include other settings.

1.8 Organisation of Report

This study report is presented in five chapters. These include chapter one which elaborates on the background, problem statement and objectives of the study. Additionally, the second chapter revisits existing literature on the subject including concepts, theory and empirical evidence and presents a conceptual framework. The third chapter presents the methodology for the study. Chapter four gives the data presentation and analysis. The last chapter summarises the study findings, concludes and makes recommendations based on the study findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter revisits existing scholarly works on cash flow management and financial performance. The literature review is presented in three main sections. This includes conceptual review, theoretical review and empirical review on cash flow ratio analysis and financial performance. Additionally, the chapter includes a conceptual framework of the literature review graphically illustrating the relations, hypothesis and how the study seeks to answer the research questions.

2.2 Conceptual Review

This section of the chapter clarifies the main concepts of the study. These include cash flow, operational, financial and investment cash flow activities and financial performance.

2.2.1 Cash Flow

Historically, auditors tend to depend more on the balance sheet approach or the transaction cycle to measure cash flow (Epstein et al, 2007). Sadly, neither of these two methods emphasizes cash flow figures or even actual cash. Financial auditors' use of current ratio and fast ratio analysis is extensive, in addition to failing to use statements of cash flow in conjunction with the income statement and balance sheet to trace top cash flow statement common items. The available literature on the subject highlights its role in decision-making. Albeit, the importance of cash flow analysis, many financial managers and

financial account users have been reluctant to adopt the use of cash flow ratio or statement in the presentation of financial standings and financial analysis (Amuzu, 2010).

Nallareddy, Sethuraman and Venkatachalam (2020) also bring to the discussion that many existing studies have opted for the balanced approach in measuring cash flows instead of using the cash flow statement approach. They add that this might be the reason why financial account managers and users prefer balance sheets in presenting financial standings (Amuzu, 2010). However, Nallareddy, Sethuraman and Venkatachalam (2020) posit that the balance sheet approach is fraught with measurement errors, particularly for the acquisition of merged firms. It is, therefore, convenient to use cash flow statements in analysing financial standings to avoid erroneous inferences.

According to Hovakimian and Hovakimian (2009), cash flow is the movement of money “in and out” of a firm/organisation or business within a period. Albrecht (2003 cited in Nangih, Ofor & Onuorah, 2018) defines cash flow as the sum of money received by or paid out by a firm over a while. Furthermore, the concept of cash flow has been defined by Nangih, Ofor, and Onuorah (2018) as the funds invested by an entity in its non-current assets, inventories, account receivables, and marketable securities that generate profits. Mathematically, cash flow is the difference between the total revenue flow and the expenditure flow, including overhead costs, as posited by Adjei et al. (2018). Adjei et al. (2018) also suggest that cash flow management is crucial for profit maximization and expense minimization, and a well-managed cash flow distinguishes a company's strength from a poorly managed one. Cash flow management involves planning, organizing, and controlling the inflows and outflows of cash within a specified period (Nangih, Ofor, & Onuorah, 2018).

In the capital market, the firm's value is reflected in the stock price, which is influenced by the available cash flow balances, as suggested by Dewi et al. (2019). Effective cash flow management practices ensure that there are enough available cash balances to facilitate growth. Free cash flow, defined as the excess cash in a company to fund projects, is a positive signal of the company's performance (Dewi et al., 2019). High free cash flow enhances the probability of increasing shareholders' wealth and the firm's value. The free cash flow can be used to make financial decisions and dividend payments (Dewi et al., 2019). However, Jensen (1986) cautions that free cash flow should be distributed as dividends or used to pay debts to avoid the possibility of investing in negative net present value.

When it comes to auditing, cash flow analysis is more accurate than traditional methods. According to various bankruptcies reported in the early 2000s, the income statement has been subject to manipulation (Fawzi et al., 2015). A good example is W. T. Grant declaring bankruptcy. In this case, the firm's usual ratio-based analysis missed the major liquidity problems that ultimately led to its consolidation. The corporation demonstrated positive cash ratios in addition to positive earnings. The company, however, truly had a huge amount of extremely negative cash flows. The company was unable to fulfil its numerous obligations to creditors as well as its present debts as a result. A more accurate indicator of performance than accrual accounting data alone would be provided by the combination of cash flow data and traditional ratios (Amuzu, 2010).

2.2.2 Types of Cash flow

Cash flow can be realised from many sources. Out of the many, three activities have been proven to guarantee continuous cash flow within the firm. These include cash flow from

the operation, financing and investment activities (Dewi et al., 2019; Nangih, Ofor & Onuorah, 2018).

2.2.2.1 Operating Activities

In the literature review, Amuzu (2010) defines operating cash flow as the cash earning from a corporation's core activities in the context of financial accounting. Nangih, Ofor and Onuorah (2018) add that these activities typically comprise those in computing an entity's net income. Liman and Mohammed (2018) define operating cash flow as the cash inflows through a business's regular operations. Soet (2020) postulates that operating cash flow is the income flow related to a company's operation that quantifies the amount of cash earned. The net change in cash and cash equivalents resulting from operations that reflects in the income statement is represented by net cash flow from operating activities when calculating operating profit (Liman and Mohammed, 2018). The net cash flow from operating activities at the end of a given period is the difference in total inflows and outflows and the cash equivalent (Amuzu, 2010).

Operating cash flow is the paramount measure of a company's ability to obtain funds to finance its activities since it is the primary source of income flows and the main producing activities of the firm (Amuzu, 2010; Nangih, Ofor & Onuorah, 2018). Moreover, operating cash flow is a more accurate indicator of how much a company generates compared to traditional profitability measures like net income, as it takes into account receivables, depreciation, and liabilities (Liman and Mohammed, 2018). In addition, companies typically have numerous fixed assets, such as machinery and equipment, which can cause a decline in net income due to depreciation (Liman and Mohammed, 2018).

Cash-generating activities and transactions that are not related to investment and finance, such as production activities, delivery of goods, and service delivery, are included in this group (Amuzu, 2010). Moreover, it encompasses all activities that contribute to the entity's gain or loss, such as cash from the sale of goods and services, cash paid to suppliers of those items, and cash paid to employees (Nangih, Ofor & Onuorah, 2018). Unusual items, depreciation and amortization, interest payments, or tax payments are not included in operational cash (Nallareddy, Sethuraman, and Venkatachalam, 2020).

Compared to profitability metrics like net income, operating cash flow provides a truer picture of a company's current cash because it takes receivables, depreciation, and liabilities into account (Amuzu, 2010; Liman and Mohammed, 2018). For instance, a company that has a lot of equipment and other fixed assets in its books of accounts is more likely to see a decline in net income due to depreciation. Businesses must take into account the cash flow of their transactions linked to operational activities if they want to succeed in the long run. Any persistent cash flow issues could have a detrimental effect on the business's performance overall, therefore a company has to have enough cash on hand to pay for operations and make investments (Liman and Mohammed, 2018).

2.2.3 Investing Activities

Investing cash flows are cash flows that a company receives from general investments (Amuzu, 2010). It may also refer to cash flows that have been received or spent, returns from tangible investments, or revenue received when an investment is sold. Investing activities consist of cash flows related to the purchase and sale of long-term assets and investments (Nangih, Ofor & Onuorah, 2018). Soet (2020) adds that investment cash flow covers cash investment that benefits the company for multiple years, contributing to its

profitability. Because this component can determine a company's financial future, investment cash flows should be regarded as critical elements of a company's statement of cash flow (Gupta and Mahakud, 2019). According to Gupta and Mahakud (2019), cash flow from investment provides a basis for assessing a company's strengths and weaknesses.

Investing operations that generate cash flow include processing and collecting loans, investing in stocks, and purchasing land, buildings, equipment, and plants (Amuzu, 2010). Cash receipts from the disposal of non-current assets, cash payments to acquire non-current assets (Nangih, Ofor & Onuorah, 2018), and purchases of stocks or bonds (Soet, 2020) are also part of investing cash flows. Activities such as purchasing and selling long-term assets, both tangible and intangible, as well as other investments that do not involve cash equivalents, such as receiving and paying loans, debts, securities, or capital, fixed assets, and other productive assets, are also included in investing cash flows (Amuzu, 2010). According to Gupta and Mahakud (2019), investment cash flows after acquisition may tend to vary significantly since they take into account both the acquired investment's solid assets and the ongoing cash flow of the acquired investment balance sheet. Amuzu (2010) encourages investors to avoid conflating cash flow from investing operations with loss or profit, which signifies the difference between an investment's acquisition price and its selling price.

2.2.4 Financial Activities

The cash flow from financing activities refers to the cash inflows and outflows from equity, debt issue, payment of dividends, debt repayments, and repurchase of shares (Amuzu, 2010). Financing activities involve actions that affect the entity's share capital

and long-term debt structure (Nangih, Ofor & Onuorah, 2018). These activities are funded by external sources through equity or loan capital (Soet, 2020). According to Nwanyanwu (2015), financing cash flows are concerned with obtaining cash from external sources for financing the firm's operations, and they include both inflows and outflows of money. They involve transactions that alter the capital structure, including principal amounts borrowed and repaid to lenders, issuance of cash received, and payment of cash towards equity repurchases. However, only debt resulting from actual borrowing transactions is typically reported as financing cash flow (Amuzu, 2010).

The cash flow from financing activities includes proceeds from the issue of shares and debentures, cash payment for share redemption, proceeds from borrowing, and cash payment for loan repayment (Nangih, Ofor & Onuorah, 2018). Financing activities encompass activities that lead to changes in the quantity and composition of the company's capital and long-term loans, which include activities such as obtaining funding from owners, borrowing and repaying debts, or extending long-term loans to pay off specific debts.

2.2.5 Firm Performance

According to Nangih, Ofor, and Onuorah (2018), performance is the measure of an entity's success based on specific criteria. Financial performance, specifically, is the assessment of a firm's ability to generate profits and maximize wealth by effectively utilizing its assets (Nangih, Ofor, & Onuorah, 2018; Soet, 2020). Liquidity, stability, solvency, and productivity are all components of financial performance (Soet, 2020). Performance may be evaluated subjectively, with a firm setting criteria such as profitability, liquidity, asset utilization, or market growth targets (Investopedia.com cited in Nangih, Ofor, & Onuorah,

2018). Trend analysis and comparative analysis of performance against other firms in the same industry are two common methods of performance evaluation.

Accounting ratios, such as profit margin, return on assets (ROA), return on equity (ROE), earnings per share, and net assets per share are commonly used to assess a company's performance (Nangih, Ofor, & Onuorah, 2018). The present study uses return on assets and returns on equity as measures of financial performance. Return on equity and return on assets analyses are used to evaluate a company's overall financial health over time (Soet, 2020). Morris (2011) and Ebben and Johnson (2011), cited in Soet (2020), found that return on sales, return on assets, and return on equity were commonly used metrics for measuring financial success in research on cash flow and performance.

2.3 Theoretical Review

The study has adopted the free cash flow theory to explain how cash flow affects business activities thereby influencing the financial performance of firms.

2.3.1 Free Cash Flow Theory

The free cash flow theory, developed by Michael Jensen in 1986, emphasizes the conflicting interests between managers and shareholders about free cash flow. Free cash flow refers to extra cash flows that remain after necessary funds have been invested in projects yielding positive net present value returns (Jensen, 1986). Jensen (1986) posits that agency conflicts are exacerbated when cash flow exceeds the amount required to fund all positive net present value projects. This results in managers having the incentive to invest in value-decreasing projects or overspend on perquisites to enhance the volume of total assets under their control (Soet, 2020).

Dividends can be a solution to the free cash flow problem, providing market discipline for overinvestment, as the announcement of recurring dividends creates a quasi-contract with shareholders to return excess cash (Jensen, 1986). Shareholders place a higher value on a firm when the potential misuse of cash flows is restrained with recurring dividends. Leverage itself can also act as a monitoring mechanism, reducing the agency problem and increasing firm value by reducing the agency costs of free cash flow (Jensen, 1986). However, high leverage levels may result in a firm's inability to invest in non-profitable new projects, leading to the failure to generate cash flows for the firm and the inability to pay fixed amounts of interest on debt or principal when it's due (Ojong, Ushie, & Asibong, 2019). It may also cause the inability to generate profit in a financial year, failing to pay dividends to firm shareholders. Despite these potential drawbacks, leverage can increase managers' efficiency, as the debt market may function as a more effective capital market monitoring mechanism. To obtain debt financing, managers must show their abilities and efficiencies in managing the firm. Empirical evidence has shown that leverage proxied by bank lenders can be a substitute monitoring mechanism, especially in weak firms but not in more active merger environments.

Jensen (1986) argues that FCF is associated with changes in shareholders' wealth, which are linked to stock returns, making it an efficient measure for evaluating a firm's performance. FCF enhances investors' confidence in the firm and is interpreted as meaning increased firm value reflected by high stock return. Conversely, shareholders believe that free cash flows can create value for them, as businesses with high positive FCF are expected to invest surplus funds in profitable new investment projects that yield positive NPV, ultimately enhancing stock return. However, the free cash flow theory predicts that

companies with high levels of free cash flow are expected to commence investments and takeovers that are value-declining (Soet, 2020).

The free cash flow theory is significant to this study because it supports the reduction of conflict of interest involving managers and stakeholders to ensure efficient and effective management of cash flows that result in wealth maximization. The theory is relevant in understanding how cash flow should be managed to ensure that shareholders derive value for their investments in a company. The study aims to investigate the impact of free cash flow on firm value and to examine the moderating effect of leverage on this relationship. Thus, the free cash flow theory provides a theoretical foundation for this study and helps to explain how excessive free cash flows can lead to a deterioration in firm value and how debt financing can be used to restrain overinvestment behaviours.

2.4 Empirical Review and Hypothesis Development

In this chapter, we synthesize relevant research to address the primary objective of this study. Specifically, we examine the literature that investigates the association between free cash flow and firm performance. We also categorize cash flow management into operating cash flow, investing cash flow, financing cash flow, and free cash flow to evaluate the impact of each on the financial performance metrics, namely ROA and ROE, of publicly traded companies listed on the Ghanaian Stock Exchange.

A key factor in determining the value of a company is the efficient handling of its finances (Das, 2019). Cash flow is the most common financial metric used to evaluate a firm's profitability and long-term viability, according to Das (2019). Cash flow management is important for corporate operations and financial performance, claim Soet, Muturi, and

Oluoch (2018). Numerous research conducted all over the world (Liman and Mohammed, 2018; Gatumo and Omukaga, 2019) have examined the relationship between cash flow and performance. Evidence of the connection/impact between Ghana, Africa, Asia, and Europe has been presented in this portion of the empirical review. Despite the numerous reports of strong and significant connections, some investigations found little evidence to back up the theory (Gatumo and Omukaga, 2019).

Although the majority of these studies were carried out in different industries and sectors in their respective economies, they were centred on operational performance within a 5-year frame. This study extends the time frame to 10 years and additionally explores operational, financial and investment cash flows on financial performance measured through ROE and ROA. Also, this study will be undertaken on different industries on the GSE. Most of the studies used in this review looked at cash flow as a single unit, a gap which this study seeks to fulfil. The sections following this introductory empirical review specifically look at the three sources of cash flow namely, operational, investing and financial performance.

2.4.1 Operating Cash Flow Management and Financial Performance

Several studies have examined the relationship between cash flow management and the financial performance of listed firms. For example, a study conducted by Amah, Michael, and Ihendimu (2016) in Nigeria aimed to assess the link between operational cash flow, financing and investment cash flow, and the financial performance of listed banks. The study used an ex post facto research design and examined four banks listed on the Nigerian Stock Exchange (NSE) over nine years (2005-2013). The study found that operating cash

flow had a significant and positive relationship while investing and financing cash flow had insignificant and negative effects on financial performance.

Similarly, Liman and Mohammed (2018) conducted research in Nigeria to investigate the relationship between operating cash flows and the financial performance of listed corporations on the Nigerian Stock Exchange from 2005 to 2014. Their study used a sample size of five and reported a positive and insignificant relationship between operating cash flow and financial performance using return on assets (ROA). However, the study reported a positive and significant correlation between operating cash flow and financial performance when measured by return on equity (ROE).

Another study by Alslehat and AI-Nimer (2017) in Jordan examined the impact of cash flow management on the financial results of 23 Jordanian insurance businesses between 2009 and 2013. The study found that operating cash flows were valued higher than those from other operations, indicating that Jordanian insurance companies made money from their core businesses and were not experiencing a liquidity issue. The study also suggested that investment income played a key role in financial performance.

Additionally, Soet, Muturi, and Oluoch (2018) adopted an inferential statistics analysis approach to measure the relationship between cash flow and financial performance. Their study revealed that operating cash flow management had a significant and positive effect on return on assets and an insignificant and positive effect on return on equity. Overall, these studies suggest that operating cash flow management is an essential factor in determining the financial performance of listed firms. (Amah, Michael, & Ihendinimu, 2016; Liman & Mohammed, 2018; Alslehat & AI-Nimer, 2017; Soet, Muturi, & Oluoch, 2018).

Based on the presented evidence of operation cash flow and performance, this study proposes that:

H_{1a}: Operating cash flow has a positive effect on financial performance (ROE).

H_{1b}: Operating cash flow has a positive effect on financial performance (ROA).

2.4.2 Investing Cash Flow Management and Financial Performance

Wijewardana and Munasinghe (2015) conducted a study in Sri Lanka that assessed the relationship between cash flow management and firm performance. The study focused on 37 manufacturing firms listed on the Colombo Security Exchange and evaluated the impact of cash flows on corporate stability, liquidity, and profitability. The authors found that investment cash flow was negatively correlated with financial performance.

In another study, Nangih, Ofor & Onuorah (2018) investigated the relationship between cash flow management and the financial performance of oil and gas firms listed on the Nigerian Stock Exchange from 2013 to 2018. Drawing from the stakeholders' theory, the study employed a judgmental design and collected data from annual reports. The authors reported that cash flow from financing activities had a positive and significant influence on firm performance in the oil and gas sector. In both studies, the researchers used empirical data and applied statistical analysis to evaluate the relationship between cash flow management and financial performance.

Based on the presented evidence of operation cash flow and performance, this study proposes that:

H_{2a}: Investment cash flow has a positive and significant effect on financial performance (ROE).

H_{2b}: Investment cash flow has a positive and significant effect on financial performance (ROA).

2.4.3 Financing Cash Flow Management and Financial Performance

Other studies have investigated the relationship between financing cash flow and performance. Wijewaradana and Munasinghe (2015) report that financing cash flow has a negative correlation with financial performance. Ndungu and Oluoch (2016) through a descriptive research methodology examine the effects of financing cash flow management on market performance in Kenya. Their study collected secondary semi-annual data from five companies in the construction industry listed on the NSE for the years 2008 to 2015. To analyze the data, the study used CAPM. The findings of the study indicate that operating cash flow had a positive impact on market performance while investing cash flow, financing cash flow, and free cash flow all had a negative impact. The evidence of operation cash flow and performance, this study proposes that:

H_{3a}: Financing cash flow has a negative effect on financial performance (ROE).

H_{3b}: Financing cash flow has a negative effect on financial performance (ROA)

2.5 Conceptual Framework

According to Soet (2020), a conceptual framework is developed based on specific instances. In this study, the various aspects of the themes have been explored to provide a focus, rationale, and instrument for the integration and explanation of the cash flow and

performance phenomenon. The review has established a connection between the variables under discussion and systematically arranged them. The independent variable(s), which is the acknowledged basis for the variation of the dependent or unpredictable variable, has been identified, as well as the dependent variable, which is unpredictable, and the investigator attempts to explain. The study links the various concepts of operational cash flow, investing cash flow, and financing cash flow (independent variables) to financial performance (measured using ROE and ROI). In this study, the predictor variables are measured using operating cash flow, investing cash flow, and financing cash flow, while the dependent variable is financial performance. This has been presented in figure 1.

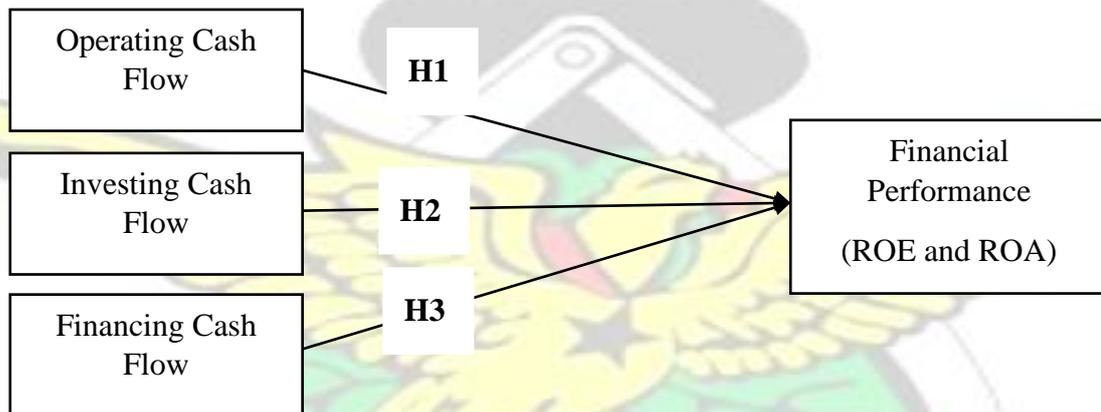


Figure 1.1 Conceptual Framework

The theoretical framework diagram presented in Figure 1 depicts the proposed relationships between cash flows and the financial performance of the listed firms, measured by return on assets (ROA) and return on equity (ROE). The diagram suggests that the three types of cash flows - operational, investing, and financing - have a direct impact on the financial performance of the listed firms.

Operational cash flow refers to the cash generated by the core business operations of the firm. Investing cash flow is the cash used for acquiring or disposing of long-term assets,

such as property, plant, and equipment. Financing cash flow is the cash used to finance the company's operations, including the issuance or repurchase of debt and equity securities.

The diagram indicates that operational cash flow, investing cash flow, and financing cash flow are the independent variables, while financial performance measured by ROA and ROE are the dependent variables. The arrows in the diagram represent the proposed direction of the relationships, with the cash flows affecting the financial performance.

Overall, the diagram highlights the importance of cash flow management for the financial success of listed firms. By establishing the proposed relationships between cash flows and financial performance, the diagram provides a theoretical basis for further empirical investigation into the topic.

2.6. Summary

This literature review chapter provides a comprehensive overview of previous studies conducted by researchers and scholars concerning the impact of cash flow management on a firm's financial performance. The chapter includes clear definitions of key terms to aid the reader's understanding of the subject matter. The theoretical framework is discussed, incorporating theories such as agency cost and free cash flow to support the study's objectives. Additionally, the empirical literature is presented, with a focus on studies that explore the relationship between operational cash flow, investing cash flow, financing cash flow, and financial performance. The conceptual framework is also presented, outlining the study's independent and dependent variables and three proposed hypotheses.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the various scientific approaches employed to execute this thesis. The chapter covers the research design, populations, sample size and sampling techniques, data sources and collection tools and data analysis techniques.

3.2 Research Philosophy

Research philosophy highlights the overall research methodology adopted and defends why a philosophical stand is taken for a study (Shah et al., 2019). This study adopts the first layer of the research onion and describes the philosophical perspectives of research. Research philosophies are an important aspect of the research (Saunders, Lewis and Thornhill, 2007) and failure to consider it may affect the quality of research (Easterby-Smith et al., 2012). According to Saunders, Lewis and Thornhill (2007) and Creswell and Creswell (2017), research philosophies are a set of assumptions that guide the research strategy and methods used to conduct a study. These assumptions are based on ontological and epistemological perspectives, which reflect the researcher's worldview. The choice of research philosophy is influenced by factors such as data availability, access to participants, and time constraints.

This study adopts the positivist school of thought. Positive thinking places a strong emphasis on learning by doing and creating information from experience and reflection (Soet, 2020). The positivist worldview perceives the researcher and subject matter are both

impartial and unrelated to one another. According to Shields (2008), the positivist concept could be a persuasive method of financial management. When a researcher adopts a positivist approach and plans to conduct a scientific analysis of the data acquired, quantitative data is typically collected. In positivist studies, the researcher's role is limited to gathering data and objectively interpreting it. Additionally, study outcomes are often observable and quantitative (Soet, 2020).

3.3. Research Design

The purpose of the study is explanatory. Research purpose outlines “why” and “how” a particular problem will be scientifically investigated and categorized into explanatory, exploratory, or descriptive research designs. According to Soet (2020), explanatory research clarifies instead of easily describing the phenomena studied. This design is employed when a study’s objective is to investigate the relationship between the variables under study (Saunders et al., 2009). The study employs a causal or explanatory research design, which does not involve manipulation of the predictable variables to make inferences about causality. This design was chosen based on the nature of the research question and the availability of data. The use of causal research design helps to reveal the cause-and-effect relationship between the dependent and independent variables.

The study utilizes panel data as the research strategy. According to Saunders et al. (2009), research strategies may include experiments, surveys, archival analysis, and case studies, among others. Panel data combines both time series and cross-sectional data, and it is expected to provide unbiased estimators (Hongli et al., 2019). This strategy offers researchers greater flexibility to control the impact of individual-specific variables and time-specific variables, thus enhancing efficiency (Hongli et al., 2019). Moreover, panel

data has the advantage of identifying effects that may be difficult to pinpoint when pure cross-sectional or time series data are used (Musah and Kong, 2019).

Research methods can be broadly subjected to qualitative and quantitative research methods (Myers, 1997; Saunders, Lewis & Thornhill, 2009). Qualitative research focuses on the use of text and other non-numeric data to explain concepts while quantitative research seeks to establish relationships between subjects of enquiry (Creswell, 2009). In quantitative research, data in the form of numbers or quantities are collected and analysed with the use of statistical techniques such as correlation, regression etc. Adopting a particular research method is influenced by the study objectives and subsequently influences the data collection technique employed.

This study adopts quantitative methods. Saunders, Lewis and Thornhill (2009) defend that employing quantitative techniques helps researchers to establish relationships among variables and to determine patterns among concepts.

3.4 Study Population

The population of the study is made up of all listed companies on the Ghanaian Stock Exchange. There are thirty-nine (39) entities currently listed on the Ghana Stock Exchange.

3.5 Sampling technique and Sample size

The study's sample comprises 16 firms listed on the Ghana Stock Exchange and covers the period from 2012-2021. The sampling process considered factors such as the number of years in existence, technical suspension, unaudited financial records, non-existence of

trend records, and incomplete financial statements, which serve as filters (Musah and Kong, 2019). The selected firms belong to various sectors, such as banking and finance, wood and processing, beverage and pharmaceutical industries, trading and information technology, manufacturing and paper converters, metal and oil, and agriculture and agro-processing.

3.6 Data source and Collection technique

All data are from audited/unaudited financial statements between 2012 and 2021. The data source for the study is from the GSE website, the Fact Book of the Ghana Stock Exchange, and the websites of the sampled firms. The reports include the comprehensive income statement, statement of financial position, statement of cash flows, statement of changes in equity, and notes to the accounts. This period was chosen because it contained the latest data and was thus deemed appropriate for the research. All indicators/variables observed were computed from the extracted data using formulas specified in Table 1.

3.7 Measurement Variables

The present research computed the cash flows as the total net cash flows divided by the total current liabilities of the firms. The operational cash flow management was assessed using the net operating cash flows divided by total assets, investing cash flow management was determined using the net investing cash flows divided by total assets and financing cash flow management was calculated using the net financing cash flows divided by total assets. Additionally, return on assets was computed as the ratio of net income to total assets, whereas Return on equity was calculated as the net income divided by the total equity of the firms.

Table 3. 1 Measurement Variables

Variable	Symbols	Variable definition	Measurement formula	
Operating cash flow management	OCF	Net cash flow from Operating activities of firm in the year divided by total assets		Independent
Investing cash flow management	ICF	Net cash flow from Investing activities of firm in the year divided by total assets		Independent
Financing cash flow management	FCF	Net cash flow from Financing activities of firm in the year divided by total assets		Independent
Return on Assets	ROA	Net income divided by Total Asset		Dependent
Return on Equity	ROE	Total Equity divided by total assets		Dependent
Size	SIZE	Total Assets of the firm	Total Assets	Control
Earnings per share	EPS	Profit After Tax - Preference Share Dividend divided by Equity Shares		Control

3.8 Data analysis

The data analysis is performed using descriptive statistics and inferential statistics including correlation and regression to measure the relationship. The analysis focuses on three key sets of variables, including the dependent variables of return on assets (ROA) and returns on equity (ROE), which measure financial performance. The study's independent variable is cash flow, which is classified into three categories: cash flow from operating activities (CFO), investing activities, and financial activities. Additionally, the study includes firm size (SIZE) and earnings per share (EPS) as control variables to isolate the impact of cash flow on financial performance.

To examine the relationship between cash flow management and financial performance, the study employs a time series panel data approach that combines cross-sectional and time series data.

3.8.1 Model specification

The regression equation of fixed effects model panel data is as follows: $Y_{it} = \beta_0 + \beta_1 X_{it} + e_{it}$. Where: Y_{it} = criterion variable, β_0 = intercept, β_1 = slope or coefficient, X_{it} = predicative variables, e_{it} = dummy variable, μ_{it} = error term or variations unexplained by the model and i = No. of banks or firms and t = time.

Substitution of the dependent and independent variables, therefore, arrives at:

$$\text{ROE}_{it} = \beta_0 + 1\text{SIZE}_{it} + 2\text{ESP}_{it} + 3\text{OCF}_{it} + 4\text{FCF}_{it} + 5\text{ICF}_{it} + e_{it} + it \dots\dots\dots 1$$

$$\text{ROA}_{it} = 0 + 1\text{SIZE}_{it} + 2\text{ESP}_{it} + 3\text{OCF}_{it} + 4\text{FCF}_{it} + 5\text{ICF}_{it} + e_{it} + it \dots\dots\dots 2$$

α = constant coefficient (intercept), β_5 = are the coefficients, $\varphi_1 - \varphi_5$ = are the coefficients to be estimated and e_{it} = dummy variable, SIZE = firm size, ESP = earnings per share, OCF = operating cash flow, ICF = Investing cash flow, FCF = financing cash flow, ROE = Return on equity and ROA = Return on assets.

3.9 Validity and Reliability

Variables adopted were borrowed from earlier studies (Alslehat and AI-Nimer, 2017; Liman and Mohammed 2018; Soet, 2020) published in renowned journals and the data analysis strategy was equally adopted with slight modification. To enhance the validity of statistical inferences for the study, a robustness test was performed. This test involved examining for Multicollinearity, Heteroskedasticity, Normality and Hausman specification.

In panel regression analysis, selecting the appropriate model specification is a crucial step in ensuring reliable and valid results. While both fixed effects or random effects models can be used to account for unobserved heterogeneity, each has its own set of assumptions and limitations that can affect the validity of the results. The Hausman test (Hongli et al., 2019) is used to estimate the choice of fixed effect in this study. This test compares the differences between the coefficients estimated by the fixed effects and random effects models and allows the researcher to determine whether the random effects model is consistent with the assumptions of the fixed effects model (Görg & Greenaway, 2004).

To ensure the robustness of the findings in this study, a separate analysis was conducted on the financial and non-financial firms' data. This was done by dividing the panel data into two subsets: one containing only financial firms and the other containing non-financial firms. The aim was to determine if the results were consistent across the two groups and to check the

sensitivity of the model to the inclusion of financial firms. The results of the robustness test are presented and discussed in section 4.4.4.

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CHAPTER FOUR

DATA ANALYSIS AND DISCUSSIONS

4.1 Introduction

The study is put forward to assess the impact of cash flow activities on the performance of firms listed on the Ghana stock exchange (GSE). This chapter of the thesis report is dedicated to data analysis and discussion. The chapter builds on secondary data collected from ten (10) listed institutions. The chapter presents a descriptive statistic of the various variables under enquiry thus, operating cash flow (OCF), investing cash flow (ICF), financing cash flow (FCF) and return on equity (ROE) and return on assets (ROA). The chapter then presents the results of the correlation and panel regression analysis. The chapter ends with a discussion of the findings presented.

4.2 Descriptive Statistics

This section gives a description of the control, dependent and independent variables under enquiry. The parameters used are mean, standard deviation and minimum and maximum values of the variables. Firm size was generated by findings in the log of total assets of listed firms. From table 4.1, the minimum EPS recorded is -15.53 with a maximum EPS of 185. The mean EPS for listed firms is 5.7998 (+/- 29.6571). Thus, for every share owned in a listed firm, one could inherit a debt of GHC -15.53 or gain of GHC 185 or an average earning of GHC 5.7998 as a return.

The means of OCF, ICF and FCF illustrated in table 1 are 2,364,133.2552 (+/- 12,318,668.2923), -2,711,944.9339 (+/-15,696,718.9999) and 1,560,093.0278 (+/-

13,920,745.9891) respectively. The standard deviations show that cash flows from operating, investing and financing activities of sampled listed firms are highly dispersed. The maximum amount of cash generated from operating activities for a listed firm is GHC 93,377,000 and a minimum cash outflow of GHC -345,225 while the maximum cash returns from investing activities are GHC 22,691 and a minimum of GHC -128,332,000. For financing activities, a minimum of GHC -4,682,389 and a maximum cash flow of GHC 127,319,000 is generated annually.

For ROE, the mean of the sample firm is -3.06% while ROA is 6.9%. Thus, for every equity share issued, an average of 1.6644 is earned and a maximum of 3.3993 is earned as profit after tax and for every worth of total assets acquired an average of and a maximum of 1.2197. This is presented in table 4.1.

Table 4.1 Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	S.D.
SIZE (000,000)	131	.00	9809	488.71	1574.21
EPS	114	-166	227	9.52	41.37
OCF (000,000)	137	-45.22	7047	229.19	831.21
ICF (000,000)	137	-31880	2608	-70.56	458.30
FCF (000,000)	137	-5190	591	-99.98	566.38
ROE	133	-2428.17	326.68	-15.50	212.72
ROA	137	-.92	208.52	1.58	17.81

ESP = earnings per share, OCF = operating cash flow, ICF = Investing cash flow, FCF = financing cash flow, ROE = return on equity, and ROA = return on assets.

Source: Secondary data, 2022.

4.3 Correlation Analysis

In this section, the findings of the study's bivariate Pearson correlation coefficients between the variables are presented. These results established the relationship between the variables. The Pearson correlation coefficient measures the relationship between two variables by calculating the ratio between their covariance and the product of their standard deviations. The correlation results, which are presented in Table 4.2, indicate that the size of the sampled listed firms is significantly related to operating, investing, and financing cash flow, as well as ROE ($p < 0.01$).

The three variables under cash flow have a significant correlation with one another. Financing cash flow established a significant correlation with operating cash flow ($r = 0.507^{**}$) and investing cash flow ($r = 0.331^{**}$) while investing cash flow has a significant negative correlation with operating cash flow ($r = -.507^{**}$). The size of a firm has a significant impact on cash flows. Although there are significant correlations recorded between independent variables, the magnitudes are not high ($r < 0.70$, except between FCF and OCF) enough to cause the issue of multicollinearity (Kum et al., 2021). Wijewardana and Munasinghe (2015) equally found that investment cash flow and financial performance are negatively correlated which is seen between investing cash flow and ROE but not ROA. For ROE and ROA, there is a significantly high correlation ($r = 0.991^*$) between them. Their relationship with other variables was insignificant. This is showcased in Table 4.2.

Table 4.2 Pearson Correlation coefficients between Study variables

Variables	SIZE	EPS	OCF	ICF	FCF	ROE	ROA
SIZE	1						
EPS	.178	1					
OCF	.890**	.145	1				
ICF	-.373**	-.111	-.507**	1			
FCF	-.650**	-.127	-.841**	.331**	1		
ROE	.514**	.019	.116	-.078	-.076	1	
ROA	-.041	-.021	-.022	.002	.015	-.991**	1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

SIZE = Firm size, ESP = earnings per share, OCF = operating cash flow, ICF = Investing cash flow, FCF = financing cash flow, ROE = return on equity, and ROA = return on assets.

Source: Secondary data, 2022

4.4 Regression Analysis

In the quest to answer this study's objectives, a panel regression approach was employed to assess the cash flow management activities of listed firms between 2012 and 2021 and their impact on their performance. A fixed effect approach was adopted because it was proved as appropriate. The dependent variables were ROE and ROA which were used as a proxy for the performance of listed firms. The control variables are earnings per share and firm size while the independent variables are operating, investing, and financing cash flow.

Two-panel regression analyses were executed. The general form for panel data regression is given as $Y_{it} = \alpha + \beta X_{it} + e_{it}$ (1) Where: i = the individual cross-sectional dimension (listed firms), and t = the time dimension (i.e., 2012-2021); α = constant/intercept; β = the coefficients; Y_{it} = dependent variables (return on assets and return on equity); X_{it} = the independent variables of the model (operating, investing and financing cash flow and control variables); e_{it} = the residual error of bank, i at time, t .

In each model, dummy variables for the sampled firms using Access Bank as a reference were introduced to estimate the fixed effect. In model one, the dummies, control variables and independent variables were regressed on return on equity. In model two, the dummies, control variables and independent variables were regressed on return on assets. The results are discussed in the sections en suit.

4.4.1 The effect of Cash flow management on Return on Equity (ROE).

The first regression equation sought to investigate the first aspect of the main objective of this study which posits to establish the effect of cash flow from operating, investing and financing activities on the return on equity of listed firms. Table 4.3 presents the results of a panel regression analysis of the return on equity (ROE) and independent variables in listed firms on the Ghana Stock Exchange. The model's R-squared value is 0.968, which indicates that the independent variables explain 96.8% of the variance in ROE.

The regression results show that the constant coefficient is 0.444, which is not statistically significant at the 5% level. The coefficients for 16 companies are also presented, with only three companies having statistically significant coefficients at the 5% level. AngloGold Ashanti Limited Depository shares have a negative coefficient of -174.906^{**} , which is statistically

significant at the 1% level. ADB Bank also has negative coefficients of -8.328^* and is statistically significant at the 5% level.

The independent variables' coefficients are also presented, with size, earnings per share, and financing cash flow having statistically significant coefficients at the 1% level. Size has a positive coefficient of 5.632^{**} , indicating that larger firms tend to have higher ROE. Earnings per share have a positive coefficient of 0.095^{**} , indicating that higher earnings per share tend to lead to higher ROE. Financing cash flow has a positive coefficient of 8.776^{**} , indicating that firms with higher financing cash flow tend to have higher ROE.

The F-statistic for the model is 125.644, which is statistically significant at the 1% level, indicating that the model is a good fit for the data. The adjusted R-squared value is 0.961. Overall, the results suggest that the independent variables included in the analysis have a significant impact on ROE in listed firms on the Ghana Stock Exchange.

The analysis shows that the independent variables have a significant impact on ROE. Size has a positive impact on ROE, with a coefficient of 5.632^{**} and a very low p-value, indicating a high level of significance. Earnings per share also have a positive impact on ROE, with a coefficient of 0.095^{**} , indicating that it is statistically significant.

Operating cash flow has a positive coefficient of 6.414, indicating that it is not statistically significant. Investing cash flow has a positive coefficient of 2.385, indicating that it is not significant. On the other hand, financing cash flow has a very high positive coefficient of 8.776^{**} , indicating that it has a significant positive impact on ROE.

Table 4.3 Panel regression results of ROE and Independent variables

Model	B	t	P-value
(Constant)	.444	.224	.824
Company=ADB bank	-8.328	-2.192	.031
Company=Access Bank Ghana	-5.735	-1.584	.117
Company=AngloGold Ashanti Limited Depository shares	-174.906	-19.913	<.001
Company=Benso Oil Palm Plantation Limited	-.330	-.096	.924
Company=Clydestone (Ghana) Limited	-.146	-.045	.964
Company=Ecobank Ghana	-3.696	-1.056	.294
Company=Fan Milk Limited	-.290	-.100	.920
Company=Ghana Oil Company Limited	-1.707	-.590	.557
Company=Golden Star Resources Limited	-8.430	-1.730	.087
Company=Guinness Ghana Breweries Limited	-1.830	-.634	.528
Company=Mechanical Lloyd Company Limited	-.137	-.046	.964
Company=Produce Buying Company Limited	-.948	-.306	.760
Company=Total Petroleum Ghana Limited	-.221	-.079	.937
Company=Tullow Oil Plc	6.929	.831	.408
Company=Unilever Ghana Limited	.554	.179	.858
Size	5.632	14.905	<.001
Earnings per share	.095	4.598	<.001
Operating cash flow	6.414	1.226	.223
Investing cash flow	2.385	.664	.509
Financing cash flow	8.776	22.907	<.001
R-square	.968		
Adjusted R-square	.961		
F	125.644		

Source: Secondary data, 2022

4.4.1.1 Model Specification

The model equation is written below.

ROE = 0.444 - 8.328 (ADB bank) - 5.735 (Access Bank Ghana) - 174.906 (AngloGold Ashanti Limited Depository shares) - 0.330 (Benso Oil Palm Plantation Limited) - 0.146 (Clydestone (Ghana) Limited) - 3.696 (Ecobank Ghana) - 0.290 (Fan Milk Limited) - 0.308 (Ghana Oil Company Limited) - 1.707 (Ghana Oil Company Limited cedis) - 8.430 (Golden Star Resources Limited) - 1.830 (Guinness Ghana Breweries Limited) - 0.137 (Mechanical Lloyd Company Limited) - 0.948 (Produce Buying Company Limited) - 0.221 (Total Petroleum Ghana Limited) + 6.929 (Tullow Oil Plc) + 0.554 (Unilever Ghana Limited) + 5.632 (SIZE) + 0.095 (EPS) - 2.675 (OCF) + 1.809 (ICF) + 1.533 (FCF).

4.4.2 The effect of Cash flow Management on Return on Assets (ROA).

The table shows the results of a panel regression analysis that examines the relationship between Return on Assets (ROA) and a set of independent variables. The model includes a constant term and a set of dummy variables that represent different companies in Ghana. In addition, the model includes several financial variables, such as size, earnings per share, and cash flows.

The results show that the constant term is negative but not statistically significant, which means that the model does not have a significant impact on ROA when all other independent variables are held constant. Among the dummy variables, Ecobank Ghana has a significant positive effect on ROA, while most other companies do not have a significant effect.

Regarding the financial variables, size has a positive but non-significant effect on ROA, suggesting that larger firms tend to have higher ROA than smaller firms. Earnings per share, net operating cash flow, investing cash flow, and financing cash flow do not have a statistically significant effect on ROA. Overall, the model has a relatively low R-square value of 0.225, indicating that the independent variables explain 22.5% of the variation in ROA. This is presented in Table 4.4.

Size has a positive coefficient of 2.94, meaning that there is a positive relationship between company size and ROA. This suggests that larger companies tend to have higher ROA than smaller companies. Earnings per share have a negative coefficient of -0.001, but it is not statistically significant. Therefore, there is no evidence to suggest that the control variables, size, and earnings per share have a significant impact on ROA.

Net operating cash flow has a negative coefficient of -2.675, indicating a negative relationship with ROA however, insignificant. This suggests that companies with lower net operating cash flows tend to have higher ROA than those with higher net operating cash flows.

Investing cash flow has a positive coefficient of 1.809, but it is not statistically significant. Therefore, there is no evidence to suggest that investing cash flow has a significant impact on ROA.

Financing cash flow has a positive coefficient of 1.533, but it is also not statistically significant. Therefore, there is no evidence to suggest that financing cash flow has a significant impact on ROA.

Table 4.4 Panel regression results of ROA and Independent variables

Model	B	t	p-value
(Constant)	-.034	-.372	.711
Company=ADB bank	.058	.333	.740
Company=Access Bank Ghana	.050	.300	.765
Company=AngloGold Ashanti Limited	-.396	-.977	.331
Depository shares			
Company=Benso Oil Palm Plantation Limited	.161	1.017	.312
Company=Clydestone (Ghana) Limited	.033	.223	.824
Company=Ecobank Ghana	.625	3.872	<.001
Company=Fan Milk Limited	.167	1.286	.202
Company=Ghana Oil Company Limited	.093	.698	.487
Company=Golden Star Resources Limited	-.245	-1.090	.279
Company=Guinness Ghana Breweries Limited	.051	.386	.700
Company=Mechanical Lloyd Company Limited	.025	.184	.854
Company=Produce Buying Company Limited	-.030	-.212	.833
Company=Total Petroleum Ghana Limited	.128	.987	.327
Company=Tullow Oil Plc	-.105	-.272	.786
Company=Unilever Ghana Limited	.138	.966	.337
Size	2.940	1.688	.095
Earnings per share	-.001	-.798	.427
Net operating cash flow	-2.675	-1.109	.270
Investing cash flow	1.809	1.092	.278
Financing cash flow	1.533	.868	.388
R-square	.225		
Adjusted R-square	.038		
F	1.204		

Source: Secondary data, 2022

4.4.2.1 Model Specification

The model equation is presented below.

ROA = -0.034 + 0.058 (ADB bank) + 0.050 (Access Bank Ghana) - 0.396 (AngloGold Ashanti Limited Depository shares) + 0.161 (Benso Oil Palm Plantation Limited) + 0.033 (Clydestone (Ghana) Limited) + 0.625 (Ecobank Ghana) + 0.167(Fan Milk Limited) + 0.083 (Ghana Oil Company Limited) + 0.093 (Ghana Oil Company Limited cedis) - 0.245 (Golden Star Resources Limited) + 0.051 (Guinness Ghana Breweries Limited) + 0.025 (Mechanical Lloyd Company Limited) - 0.030 (Produce Buying Company Limited) + 0.128 (Total Petroleum Ghana Limited) - 0.105 (Tullow Oil Plc) + 0.138 (Unilever Ghana Limited) + 2.940 (SIZE) - 0.001 (EPS) - 2.675 (OCF) + 1.809 (ICF) + 1.533 (FCF).

4.4.3 Study Hypothesis

This study put forward three hypotheses to be proved by the findings. From the evidence provided by the panel data analysis, the following conclusion has been made.

Table 4.5 Hypotheses Decision

No	Hypotheses	Decision
H _{1a}	Operation cash flow has a significant positive effect on ROE	Rejected
H _{1b}	Operation cash flow has a significant positive effect on ROA	Rejected
H _{2a}	Financing cash flow has a significant negative effect on ROE	Accepted
H _{2b}	Financing cash flow has a significant negative effect on ROA	Rejected
H _{3a}	Investing cash flow has a significant positive effect on ROE	Rejected
H _{3b}	Investing cash flow has a significant positive effect on ROA	Rejected

Source: Authors construct, 2022.

4.4.4 Robustness Test

To ensure the robustness of the findings in this study, a separate analysis was conducted on the financial and non-financial firms' data. This was done by dividing the panel data into two subsets: one containing only financial firms and the other containing non-financial firms. The aim was to determine if the results were consistent across the two groups and to check the sensitivity of the model to the inclusion of financial firms. The results of the robustness test are presented in Tables 4.6 and 4.7 and discussed in the following section.

The original analysis that included both financial and non-financial firms found that none of the independent variables had a significant effect on ROE. In the robustness test, no cash flow management approach is found significant on ROE for non-financial firms, however, operating cash flow and financing cash flow were found to have a significant effect on ROE for financial firms.

Table 4.6 Robustness test for ROE

Variables	Financial firms			Non-financial firms		
	B	t	p-value	B	t	p-value
Constant	-4.787	-1.808	.104	-9.869	-.123	.903
SIZE	1.684	.375	0.001	9.203	.963	0.339
EPS	0.004	.320	0.731	0.517	.274	0.785
OCF	7.462	.325	0.054	-3.888	-.537	0.593
ICF	5.165	.548	0.749	2.578	.599	.551
FCF	1.224	.292	0.094	4.158	1.084	0.282
	R ² = 0.963, F-Change = 33.484***			R ² = 0.91, F-Change = 0.996		

Source: Secondary data

In terms of the impact of cash flow on performance, the original analysis found that financing cash flow had a significant effect on ROA of both financial and non-financial firms. But in the robustness test, none of the cash flow management approaches were significant on ROA for non-financial firms while operating cash flow and financing cash flow were significant for financial firms.

The robustness test results indicate that the initial analysis may have overlooked the potential impact of operating and financing cash flow on performance, or that the original results were influenced by specific outliers or other uncontrolled factors. The significant impact of financing cash flow on return on equity in the original analysis was supported by the robustness test. However, the robustness test also found that operating cash flow was significant, which was not detected in the original analysis. This may indicate that operating cash flow is a more important determinant of firm performance than previously thought.

Table 4.7 Robustness test for ROA

Variables	Financial firms			Non-financial firms		
	B	t	p-value	B	t	p-value
Constant	-.370	-1.565	.152	.854	.123	.902
SIZE	1.346	10.800	<.001	7.026	-.853	.396
EPS	.001	.355	.580	.517	-.264	.793
OCF	-6.005	-2.235	.075	-3.888	.519	.605
ICF	4.627	-.330	.748	2.578	-.652	.516
FCF	1.093	1.874	.094	4.158	-.866	.381
	$R^2 = 0.955$, F-Change = 27.3***			$R^2 = 0.143$, F-Change = 0.725		

Source: Secondary data

Based on the results of the robustness analysis, there were some differences in the impact of cash flow management on the performance of financial and non-financial firms. In the original analysis, none of the independent variables were significant on the dependent variable, ROA, for both financial and non-financial firms. In the robustness test, no cash flow mechanism was significant on ROA for non-financial firms, but operating cash flow and financing cash flow were significant on ROA for financial firms.

There are several differences between financial and non-financial firms that could have contributed to the differences in the findings. First, financial firms are generally more leveraged than non-financial firms, meaning that they rely more heavily on debt financing. This could lead to differences in cash flow management practices and ultimately affect the relationship between cash flow and firm performance. Additionally, financial firms may have different

reporting requirements and regulations compared to non-financial firms, which could affect the accuracy and consistency of financial data.

Another difference is the nature of their business operations. Financial firms, such as banks and insurance companies, rely on interest income and fees for their revenue, while non-financial firms, such as manufacturing and service companies, generate revenue from the sale of goods or services. This could lead to differences in the sensitivity of their financial performance to cash flow management practices.

Furthermore, financial and non-financial firms may have different investment strategies. Financial firms may be more likely to invest in financial assets, such as stocks and bonds, while non-financial firms may invest in physical assets, such as equipment and real estate. This could also affect their cash flow management practices and ultimately affect the relationship between cash flow and firm performance.

These findings suggest that there may be some differences in the impact of cash flow management on the performance of financial and non-financial firms, with different cash flow components having varying levels of importance.

4.5 Discussion of Findings

The debate on cash flow management and performance is widely studied. As a finance function, cash flow management is important for the value of a company (Das, 2019). Although some studies have been conducted on the subject, the results are inconclusive. The general cash flow management function has been reported earlier to have a significant effect on ROA but insignificant on ROE in Ghana (Musah and Kong, 2019). This study is put forward to investigate the impact of cash flow accounting on the performance of listed firms. This section

links the study's findings to existing empirical evidence on the relationship between understudied variables. The study found that the size of sampled listed firms established a significant relationship with operating, investing, and financing cash flow, and ROE. This finding is supported by the previous research conducted by Agyei-Mensah (2019), who reported that larger firms tend to have higher cash flows than smaller firms.

4.5.1 Operating Cash Flow Management and Financial Performance

This study measured the effects of operating cash flow on ROE and ROA simultaneously. For operating cash flow, the study investigated its effect on the performance of listed firms using return on equity and return on assets as a proxy. The study further established that cash flow from operating activities has a negative and insignificant effect on returns on equity but a positive impact on the return on assets of listed firms.

The findings of this study have been established by Soet, Muturi and Oluoch (2018) who reported that operating cash flow has an insignificant effect on return on equity. The study by Amah, Michael, and Ihendinimu (2016) established a positive and significant effect between operating cash flow and performance among four banks on the Nigerian Stock Exchange (NSE). What was different about this study was that they used net income after tax as a proxy for measuring financial performance. Similarly, Soet, Muturi and Oluoch (2018) report that cash flow management had a significant and positive effect on return on assets.

4.5.2 Investing Cash Flow Management and Financial Performance

The present research has revealed that investing in cash flow has a positive impact but lacks significance on the financial performance of listed firms regarding ROE and ROA. This result is consistent with the earlier findings of Amah, Michael, and Ihendinimu (2016), who found

that investing cash flow has no significant effect on the financial performance of listed banks in Nigeria. Conversely, Nangih, Ofor & Onuorah (2018) reported a significant positive relationship between cash flow from financing activities and firm performance in the oil and gas sector.

4.5.3 Financing Cash Flow Management and Financial Performance

The third objective of this study established that financing cash flow has a significant positive effect on the performance of listed firms in Ghana in terms of ROE but is insignificant on ROA. The study by Ndungu and Oluoch (2016) has proved the findings of this study. Ndungu and Oluoch (2016) demonstrated that financing has a significant impact on performance of construction firms. Additionally, Amah, Michael, and Ihendinimu (2016) found that financing cash flow has insignificant and negative effects on the financial performance of the listed banks.

4.5.4 Managerial Implications

The study's findings have several managerial implications for listed firms on the Ghana Stock Exchange. The results indicate that cash flow from operating activities, investing activities, and financial activities affect firm performance differently. Cash flow from financing activities was found to have a significant positive impact on the return on equity (ROE), suggesting that firms should pay close attention to their financing activities to improve ROE. Additionally, the results suggest that firms should also focus on improving their earnings per share (EPS) as it has a positive impact on ROE.

However, the study found that net operating cash flow and investing cash flow do not have a statistically significant impact on ROE. This implies that managers should not solely rely on

these measures to improve firm performance. Instead, they should focus on improving their financing activities and EPS.

Furthermore, the study found that larger firms tend to have higher ROE than smaller firms. This implies that firms should strive to increase their size to improve their performance. However, it is important to note that this finding may not apply to all firms and industries.

4.5.5 Theoretical Implications

The free cash flow theory suggests that firms with excess cash flow tend to invest in negative NPV projects or engage in non-value-maximizing activities such as empire building, which leads to reduced firm performance (Jensen, 1986). Based on the findings of the study, it can be inferred that the theory holds for listed firms on the Ghana Stock Exchange. The study found that financing cash flow had a significant positive impact on ROE while investing and operating cash flows did not have a significant effect.

This suggests that firms that rely heavily on external financing tend to have higher ROE, while those that generate excess operating or investing cash flows do not necessarily have higher ROE. This finding supports the free cash flow theory's assertion that excess cash flow can lead to value-destroying activities (Jensen, 1986).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter aims to offer a succinct and lucid outline of the research outcomes and provide a deeper understanding of the implications of those results. It encompasses a condensed version of the principal discoveries of the study, followed by conclusions derived from those findings, and concludes with practical recommendations for stakeholders in the relevant field, as well as recommendations for future research.

5.2 Summary of Findings

5.2.1 The effect of cash flow from operating activities on the performance of listed firms.

The first objective of this study sought to investigate the effect of operating cash flow management on performance through ROE and ROA. The study findings reveal that Operating cash flow has a positive ($= 6.414$) but statistically insignificant relationship on ROE. Additionally, operating cash flow has a negative ($= -2.675$) insignificant relationship with ROA.

5.2.2 The effects of cash flow from investing activities on the performance of listed firms.

The study found no evidence to suggest that investing cash flow has a significant impact on the performance of listed firms. For ROE, investing cash flow records a positive ($= 2.385$) but an insignificant relationship. Also, none of the cash flow management approaches have a statistically significant impact on ROA.

5.2.3 The effect of cash flow from financing activities on the performance of listed firms.

On the other hand, financing cash flow has a positive and significant (8.776**) impact on the performance of listed firms on the Ghana Stock Exchange, as measured by return on equity (ROE). However, Financing cash flow has a positive (1.533), but statistically insignificant ROA.

5.3 Conclusion

This study investigated the relationship between cash flow management and the performance of listed firms on the Ghana Stock Exchange, specifically evaluating the impact of cash flow from operating activities, investing activities, and financing activities on the performance of listed firms. The study included both financial and non-financial firms, sampling 16 out of 39 firms. Fixed effect panel data regression analysis was used to analyze the data.

The results show that the size of firms has a positive but non-significant impact on return on assets (ROA), while larger firms and those with higher earnings per share tend to have higher return on equity (ROE). Furthermore, financing cash flow management has a statistically significant impact on ROE, but operating cash flow and investing cash flow have insignificant impacts. For ROA, operating cash flow, investing cash flow, and financing cash flow do not have a statistically significant effect. These findings suggest that financing cash flow is an important factor in driving firm performance.

In conclusion, this study aimed to investigate the impact of operating, investing and financing cash flow on the return on equity (ROE) and return on assets (ROA) of listed firms on the Ghana Stock Exchange. 16 firms, both financial and non-financial firms were sampled out of the 39 firms for the study. Through a fixed effect panel data regression analysis, the study

reports that financing cash flow management has a significant impact on the performance of listed firms when measured through returns on equity. Overall, this study provides valuable insights into the factors that drive firm performance in listed firms on the Ghana Stock Exchange and adds to the existing literature on the determinants of firm performance. The study has important implications for firm managers, investors, and policymakers. Future research could explore other factors that may impact firm performance and investigate their relationship with cash flow management.

5.4 Recommendations

In summary, the study's findings suggest that managers should pay close attention to their financing activities and EPS while also considering the size of their firms to improve firm performance.

- I. Listed companies should prioritize maintaining positive cash flows, particularly financing cash flows, to achieve a higher return on equity (ROE). To implement this, companies can improve their cash flow management practices by closely monitoring and managing their cash flows from financing activities, such as debt and equity financing, to ensure that they have sufficient funds to support their growth and expansion plans.
- II. Listed firms should consider expanding their size and scale of operations to improve their financial performance, as larger firms tend to have higher ROE. To implement this, companies can explore opportunities for mergers and acquisitions, joint ventures, and strategic partnerships that will enable them to expand their operations and increase their market share.

- III. Listed companies should focus on improving their earnings per share (EPS) to achieve higher ROE. To implement this, companies can adopt strategies that will increase their profitability, such as cost reduction, pricing optimization, and product innovation.
- IV. Listed companies should monitor their net operating cash flows and aim to keep them at optimal levels to achieve higher returns on assets (ROA). To implement this, companies can adopt cash flow management practices that focus on improving their operating cash flows, such as better management of accounts receivable, inventory, and accounts payable, to ensure that they have sufficient cash to support their daily operations. Additionally, companies can explore investment opportunities that generate positive cash flows, such as capital expenditures and long-term investments.

5.5 Future studies

The following areas can be considered in future studies.

- Investigate the unique characteristics of financial and non-financial firms that contribute to variations in the performance of listed firms.
- Compare the impact of cash flow management on the performance of listed financial firms and non-financial firms on the Ghana Stock Exchange.
- Examine other cash flow management approaches and determinants of firm performance to expand on this study.
- Explore the relationships between cash flow management and performance in different contexts.
- Investigate the impact of cash flow management on performance using other indicators.

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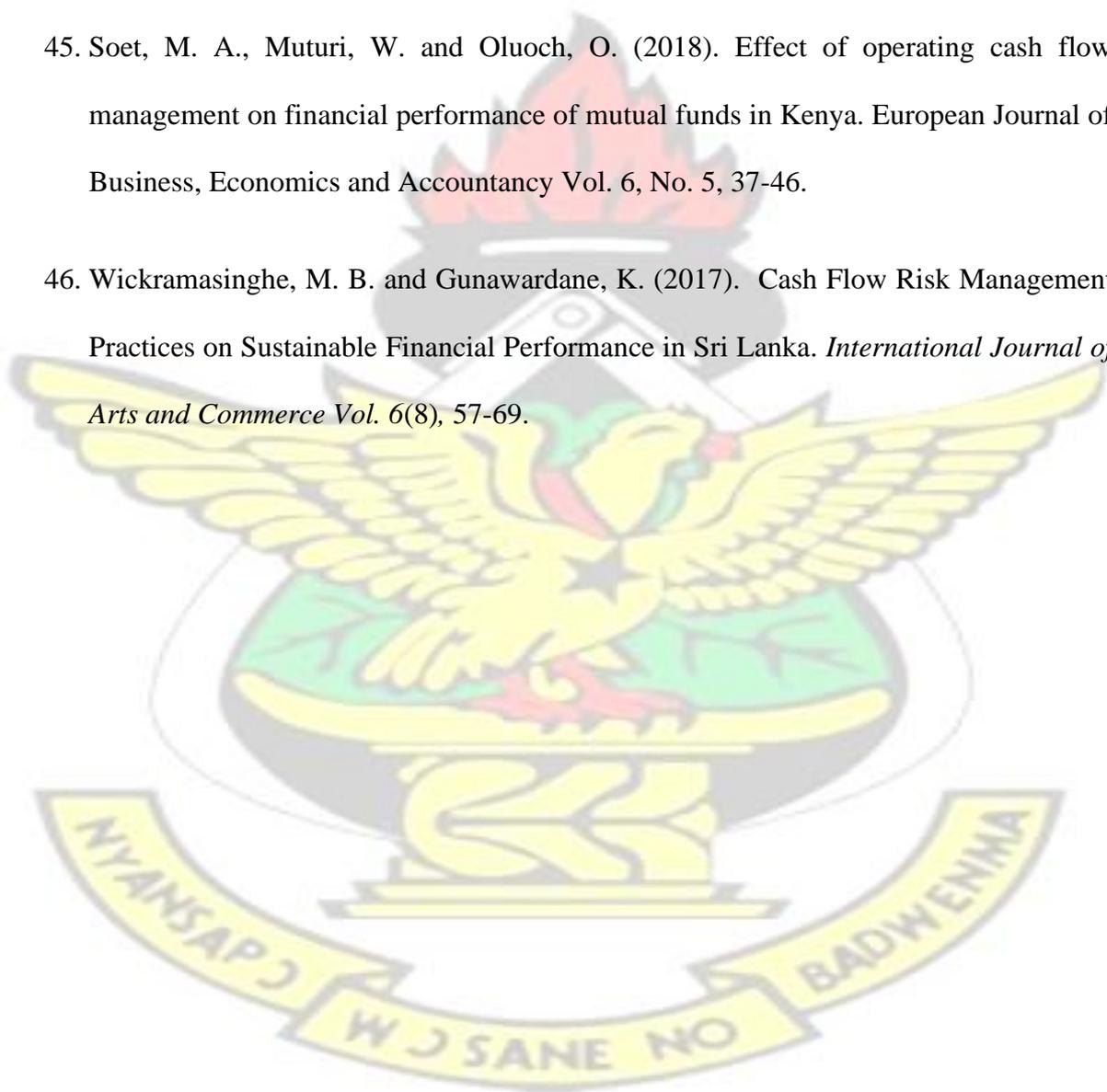
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Appendix 1 Hausman fixed random for ROA

Variable	Fixed model	Random model	Difference	S.E.
SIZE	0.6782	0.6843	-0.0061	0.0155
EPS	-0.0554	-0.0421	-0.0133	0.0121
OCF	0.0320	0.0358	-0.0038	0.0058
ICF	0.1665	0.1690	-0.0025	0.0218
FCF	0.0612	0.0596	0.0016	0.0056

Appendix 2 Hausman fixed random for ROE

Variable	Fixed model	Random model	Difference	S.E.
SIZE	0.7872	0.7883	-0.0011	0.0127
ESP	-0.0425	-0.0346	-0.0079	0.0143
OCF	0.0360	0.0406	-0.0047	0.0067
ICF	0.1615	0.1640	-0.0025	0.0148
FCF	0.0581	0.0565	0.0016	0.0083

Appendix 3 Robustness test for non-Financial listed test

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.437 ^a	.191	-.001	251.826290251301860	.191	.996	18	76	.473

a. Predictors: (Constant), Financing cash flow, Company=Ghana Oil Company Limited, Company=Benso Oil Palm Plantation Limited, Company=Clydestone (Ghana) Limited, Company=Golden Star Resources Limited\$, Company=AngloGold Ashanti Limited Depository shares, Company=Produce Buying Company Limited, Company=Mechanical Lloyd Company Limited, Company=Fan Milk Limited, Company=Tullow Oil Plc, Company=Guinness Ghana Breweries Limited, Company=Ghana Oil Company Limited cedis, Company=Total Petroleum Ghana Limited, Earning per share, Investing cash flow, Company=Unilever Ghana Limited, Net operating cash flow , Total Assets

b. Dependent Variable: ROE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1137348.072	18	63186.004	.996	.473 ^b
	Residual	4819652.515	76	63416.480		
	Total	5957000.587	94			

a. Dependent Variable: ROE

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	-9.869	80.464		-.123	.903
	Company=AngloGold Ashanti Limited Depository shares	104.656	227.689	.093	.460	.647
	Company=Benso Oil Palm Plantation Limited	9.856	138.384	.009	.071	.943
	Company=Clydestone (Ghana) Limited	10.160	130.551	.010	.078	.938
	Company=Fan Milk Limited	9.937	116.258	.012	.085	.932
	Company=Ghana Oil Company Limited	9.913	264.361	.004	.037	.970
	Company=Ghana Oil Company Limited cedis	4.014	116.120	.005	.035	.973

Company=Golden Star Resources Limited\$	-404.723	130.548	-.393	-3.100	.003
Company=Guinness Ghana Breweries Limited	8.463	116.275	.010	.073	.942
Company=Mechanical Lloyd Company Limited	11.600	120.535	.013	.096	.924
Company=Produce Buying Company Limited	9.388	124.645	.010	.075	.940
Company=Total Petroleum Ghana Limited	9.800	113.138	.012	.087	.931
Company=Tullow Oil Plc	430.246	483.492	.175	.890	.376
Company=Unilever Ghana Limited	-7.958	124.791	-.009	-.064	.949
Total Assets	9.203E-8	.000	2.819	.963	.339
Earnings per share	.517	1.888	.060	.274	.785
Net operating cash flow	-3.888E-7	.000	-1.475	-.537	.593
Investing cash flow	2.578E-7	.000	.378	.599	.551
Financing cash flow	4.158E-7	.000	1.087	1.084	.282

a. Dependent Variable: ROE

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.379 ^a	.143	-.054	21.738507471 710580	.143	.725	18	78	.776

a. Predictors: (Constant), Financing cash flow, Company=Ghana Oil Company Limited, Company=Benso Oil Palm Plantation Limited, Company=Clydestone (Ghana) Limited, Company=Produce Buying Company Limited, Company=AngloGold Ashanti Limited Depository shares, Company=Golden Star Resources Limited\$, Company=Mechanical Lloyd Company Limited, Company=Guinness Ghana Breweries Limited, Company=Tullow Oil Plc, Company=Ghana Oil Company Limited cedis, Company=Total Petroleum Ghana Limited, Company=Fan Milk Limited, Earning per share, Investing cash flow, Company=Unilever Ghana Limited, Net operating cash flow , Total Assets

b. Dependent Variable: ROA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6163.868	18	342.437	.725	.776 ^b
	Residual	36859.891	78	472.563		

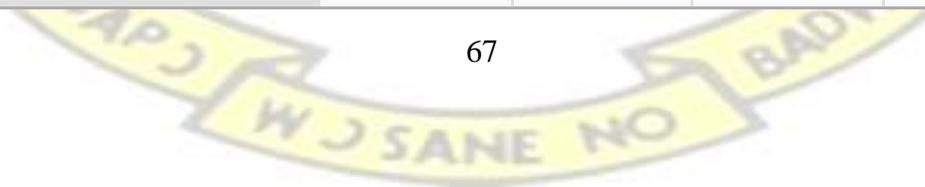
Total	43023.759	96	
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a. Dependent Variable: ROA

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.854	6.946		.123	.902
	Company=AngloGold Ashanti Limited Depository shares	-12.768	19.641	-.134	-.650	.518
	Company=Benso Oil Palm Plantation Limited	-.714	11.946	-.007	-.060	.952
	Company=Clydestone (Ghana) Limited	-.854	11.269	-.010	-.076	.940
	Company=Fan Milk Limited	-.713	9.770	-.010	-.073	.942
	Company=Ghana Oil Company Limited	-.797	22.821	-.004	-.035	.972

Company=Ghana Oil Company Limited cedis	-0.566	10.024	-0.008	-0.056	.955
Company=Golden Star Resources Limited\$	28.741	10.774	.353	2.668	.009
Company=Guinness Ghana Breweries Limited	-0.836	10.037	-0.012	-0.083	.934
Company=Mechanical Lloyd Company Limited	-1.006	10.405	-0.013	-0.097	.923
Company=Produce Buying Company Limited	-0.922	10.760	-0.011	-0.086	.932
Company=Total Petroleum Ghana Limited	-0.732	9.766	-0.011	-0.075	.940
Company=Tullow Oil Plc	-26.704	41.708	-0.128	-0.640	.524
Company=Unilever Ghana Limited	.511	10.772	.007	.047	.962
Total Assets	-7.026E-9	.000	-2.533	-0.853	.396
Earning per share	-0.043	.163	-0.059	-0.264	.793
Net operating cash flow	3.242E-8	.000	1.448	.519	.605
Investing cash flow	-2.423E-8	.000	-0.418	-0.652	.516



Financing cash flow	-2.865E-8	.000	-.882	-.866	.389
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a. Dependent Variable: ROA



Appendix 3 Robustness test for Financial Listed firms

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.981 ^a	.963	.934	2.1219790723 41007	.963	33.484	7	9	<.001

a. Predictors: (Constant), Financing cash flow, Company=Access Bank Ghana, Investing cash flow, Total Assets, Net operating cash flow , Earning per share, Company=ADB bank

b. Dependent Variable: ROE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1055.402	7	150.772	33.484	<.001 ^b
	Residual	40.525	9	4.503		
	Total	1095.927	16			

a. Dependent Variable: ROE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-4.787	2.648		-1.808	.104		
	Company=ADB bank	2.729	2.345	.155	1.164	.275	.232	4.311
	Company=Access Bank Ghana	4.303	2.550	.244	1.687	.126	.196	5.096
	Total Assets	1.684E-9	.000	1.130	10.800	<.001	.375	2.664
	Earning per share	.004	.012	.040	.355	.731	.320	3.127
	Net operating cash flow	-7.462E-9	.000	-.251	-2.235	.052	.325	3.074
	Investing cash flow	-5.165E-10	.000	-.029	-.330	.749	.548	1.826
	Financing cash flow	1.224E-8	.000	.222	1.874	.094	.292	3.423

a. Dependent Variable: ROE



Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.977 ^a	.955	.920	.18947290627 3574	.955	27.300	7	9	<.001

a. Predictors: (Constant), Financing cash flow, Company=Access Bank Ghana, Investing cash flow, Total Assets, Net operating cash flow , Earning per share, Company=ADB bank

b. Dependent Variable: ROA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.860	7	.980	27.300	<.001 ^b
	Residual	.323	9	.036		
	Total	7.183	16			

a. Dependent Variable: ROA

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.370	.236		-1.565	.152		
	Company=ADB bank	.182	.209	.128	.871	.406	.232	4.311
	Company=Access Bank Ghana	.301	.228	.211	1.321	.219	.196	5.096
	Total Assets	1.346E-10	.000	1.115	9.667	<.001	.375	2.664
	Earning per share	.001	.001	.072	.575	.580	.320	3.127
	Net operating cash flow	-6.005E-10	.000	-.250	-2.015	.075	.325	3.074
	Investing cash flow	-4.627E-11	.000	-.032	-.331	.748	.548	1.826
	Financing cash flow	1.093E-9	.000	.245	1.875	.094	.292	3.423

a. Dependent Variable: ROA

