

Faculty of Economics and Business Administration

MASTER THESIS

TITLE IN LITHUANIAN	TITLE IN ENGLISH
Verslo ciklams jautrus apyvartinio kapitalo valdymas JAV mažmeninės prekybos sektoriuje	Business-Cycle-Sensitive Working Capital Management in the U.S. Retail Sector

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Abstract

Within the retail sector in the United States, WCM (working capital management) has a dynamic relationship with firm performance and the business cycle. A major limitation of the literature is that most discussions of WCM do not consider the macroeconomic context of the data. This study fills that gap by using panel data from 49 U.S. retail firms from 2011 to 2022 to draw these conclusions. An empirical analysis finds that although the majority of WCM metrics were stable, leverage was significantly greater during recessions. Additionally, there was no evidence of mediation from WCM; that is, WCM does not mediate the relationship between business cycle conditions and firm performance. Moreover, firm size moderates the relationship between WCM and firm performance. Specifically, the relationship between high leverage and profitability for small firms was positive, whereas this relationship was negative for large firms.

TABLE OF CONTENTS

Abstract	2
LIST OF TABLES	5
LIST OF FIGURES	6
1. INTRODUCTION	7
1.1 Novelty.....	7
1.2 Relevance.....	8
1.3 Level of Scientific Investigation.....	8
1.4 Scientific Problem.....	9
1.5 Research Aim and Objectives.....	10
1.5.1 Aim:	10
1.5.2 Objectives:	10
1.6 Methodological Overview.....	10
1.7 Structure of the Thesis	11
1.8 Research Hypotheses	11
2. LITERATURE REVIEW	13
2.1 Introduction:.....	13
2.2 Theoretical Framework.....	15
2.3 Empirical Evidence on Working Capital Management and Business Cycles.....	19
2.4 Critical Discussion and Conceptual Gaps in Working Capital Management Research.....	23
Table 1: Summary of Empirical Studies on Working Capital Management and Economic Cycles	25
2.5 Conceptual Framework.....	27
Figure 1: Conceptual Framework	28
3: RESEARCH METHODOLOGY	29
3.1 Research Purpose and Model Design.....	29
3.2 Hypotheses Formulation and Variable Description.....	30
3.3 Data Collection Procedures.....	30
3.4 Data Analysis Method and Tool Justification.....	31
3.5 Justification of the Research Methodology.....	32
CHAPTER 4: EMPIRICAL ANALYSIS	34
4.1 Introduction.....	34
4.2 Data Sample and Descriptive Statistics	35
4.2.1 Data Collection and Sample Formation	35
4.2.2 Variable Operationalization	35
4.2.3 Descriptive Statistics	36
4.2.4 Outlier Analysis	38
4.3 Correlation Analysis	39

4.4 Multiple Linear Regression Analysis.....	40
4.4.1 Hypothesis 1: The Impact of Business Cycles on WCM	40
4.4.2 The Impact of WCM on Firm Performance	42
4.5 Mediation Analysis (Testing Hypothesis 2).....	44
4.6 Moderation Analysis (Testing Hypothesis 3)	45
CHAPTER 5: CONCLUSION.....	48
5.1 Introduction.....	48
5.2 Summary of Key Findings	48
5.3 Discussion and Theoretical Implications	49
5.4 Practical and Managerial Implications.....	50
5.5 Limitations of the Research	52
5.6 Suggestions for Future Research.....	53
5.7 Concluding Remarks.....	54
REFERENCES.....	55

LIST OF TABLES

Table 1: Summary of Empirical Studies on Working Capital Management and Economic Cycles	25
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LIST OF FIGURES

Figure 1: Conceptual Framework.....	28
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1. INTRODUCTION

Industry experts agree that the economic climate across the globe is currently experiencing a “perfect storm.” The COVID-19 pandemic and other significant events have created great uncertainty as to how companies will react to changing customer demands. Some analysts say that the most important short-term goal for many businesses is maintaining sufficient liquidity to survive.

Because retailing is so closely tied to customer demand and rapidly evolving operational needs, liquidity management through working capital management (WCM) is a key focus for retailers. Companies rely on WCM to manage their cash flow throughout the day-to-day operation of their business. For instance, the nature of working capital (WCM) in retailing includes the management of short-term assets such as cash, accounts receivable, and inventory, and short-term liabilities, such as accounts payable and notes payable.

Because of their rapid turnover cycle of inventory and the effect of seasonal fluctuations and customer returns on their working capital position, retailers often face unique challenges in managing their working capital position. Therefore, retail firms are particularly vulnerable to economic shocks. Companies in virtually every industry must operate with sufficient levels of working capital to meet their day-to-day operating expenses, fulfil customer orders and service outstanding customer accounts.

There are numerous articles and books that highlight the importance of working capital management to profitability and risk control, but little research has been conducted to determine the impact of macroeconomic fluctuations (i.e. the business cycle) on WCM and firm performance. Therefore, the objective of this research is to explore whether the WCM practices of retail firms are more beneficial to their overall performance during periods of economic expansion or recession through the analysis of empirical data collected from U.S. retail firms.

1.1 Novelty

Working Capital (WCM) and Firm Performance have been a subject of extensive study, particularly the effect of specific components such as the Cash Conversion Cycle (CCC) or Inventory Days on profitability. The uniqueness of this thesis is its inclusion of macroeconomic context, specifically Business Cycle Phases, into the WCM-Performance Relationships. Previous studies mainly concentrated on static and individual firm specific parameters where this study suggests that WCM strategies will not be equally effective throughout time and that the results could depend on Global Economic Conditions. For

example, having high amounts of receivables during an economic boom would not yield the same results with regards to liquidity and profitability when it is a downturn. The inclusion of this dimension creates an additional layer of complexity to our current understanding of Corporate Financial Behaviour. This is especially significant within industries characterised by rapid inventory turnover and where there are ever-changing consumer interactions.

The thesis uses the Retail Sector of the United States as a platform and a longitudinal dataset that covers several Business Cycle Phases as a basis for applying both a macroeconomic and time-based perspective on a largely firm-specific subject. This is a largely unexplored area in the Financial Management field that can provide two-fold benefits; (1) there is Significant Theoretical Contribution and (2) there is Practical Utility for Financial Managers, Policymakers and Investors.

1.2 Relevance

The retail industry offers an excellent indicator of a country's economy because of its relationship to consumer confidence, cash inflow, and the overall purchasing power of consumers. The retail industry is a major employer in many economies and is a high contributor to GDP; however, the degree to which the retail industry relies on consumer confidence makes it very vulnerable to changes in the economy. A business that has implemented effective WCM can make a significant difference to its operational viability and long-term succession during a recession.

Effective WCM can also assist financial executives of retail companies during times when revenue streams are volatile and access to credit may be limited. As a result of the nature of retailing, retail executives often need to make difficult choices regarding inventory levels, the timing of accounts receivable collection, and when to extend payment terms to suppliers. Depending on how these choices are made, they will either save the business from cash flow problems and allow it to continue to operate or result in cash shortages causing the business to end operations. This research project will identify whether a few specific WCM practices create greater efficiency for retail businesses during down markets and if the impact of those practices changes as the economy grows. With the ongoing economic challenges facing the global community due to rising prices, financial insecurity, and public health concerns, this project is timely and relevant to the need for innovative financial management strategies.

1.3 Level of Scientific Investigation

Many researchers have begun to study how working capital management affects a company's

profitability through empirical studies and other means. Deloof (2020) is one example of a highly regarded paper on the subject, while Altaf and Ahmad (2021) present an empirical study linking WCM indicators (e.g., cash conversion cycle) to profitability metrics (e.g., return on assets or equity). Most such studies do not take into account the impact of economic factors such as changes in GDP or inflation, consumer sentiment or other dynamic economic factors on working capital management and its resulting profitability. Thus, these studies do not provide useful insights into how working capital management and its effects on profitability change when there are dynamic shifts in the economic environment.

Therefore, this thesis aims to increase the scientific rigor of this area of inquiry by incorporating macroeconomic elements into a firm's financial model. This research will use panel data methodology to examine the interaction between various working capital management metrics and macroeconomic indicators (e.g., business cycle phase) to assess whether the macroeconomic indicators moderate the relationship between working capital management and profitability. Combining firm-specific financial information with macroeconomic time-series data collected over an eight-year period will allow robust patterns to emerge that will remain intact despite the inherent complexities of the environment in which companies operate. Furthermore, this thesis expands the descriptive analysis typical of prior research by using superior methodology—fixed effects and two-step GMM estimators—to deal with the problems of unobserved heterogeneity and endogeneity—adding significant methodological contribution to the existing literature.

1.4 Scientific Problem

Although numerous studies demonstrate that managing a company's working capital is a key determinant of the company's overall operational success; however, there is little consideration in most of these studies regarding how varying macroeconomic cycles can affect the way in which firms execute their working capital management (WCM) strategies. The scientific issue being addressed by the research presented in this paper is that WCM practices have varying levels of contextual relevance. More specifically, do certain WCM practices provide value during one macroeconomic cycle but reduce value during a different cycle? If so, how should firms tweak their liquidity management strategies based on the current economic conditions?

Another significant shortcoming of the existing body of literature is related to methodological concerns. Specifically, the majority of existing studies employ static regression analyses that

do not consider how economic conditions change over time. As a result, the majority of these analyses implicitly assume that all written financial management practices operate in isolation from one another (which this research intends to challenge). The absence of sophisticated, or nuanced, phase-specific models creates both an empirical and theoretical gap that this study intends to fill.

1.5 Research Aim and Objectives

1.5.1 Aim:

This study will explore the impact of Working Capital Management on Firm Performance in the U.S. Retail Sector in terms of how Business Cycle Phases interact between them and to what degree each of these elements impacts on each other.

1.5.2 Objectives:

The following are the primary objectives of this research proposal:

- 1.) To conduct a thorough analysis of the current body of research regarding WCM, focusing on both theoretical and empirical strengths and weaknesses, and potential areas for additional research.
- 2.) To develop a panel financial dataset and macroeconomic dataset covering the time period between 2016 and 2023 representing several different economic phases through different types of economic events.
- 3.) To evaluate the relationship between the key indicators of WCM (CCC, DIO, DSO, DPO) and the performance measures for those firms (ROA, asset turnover) during the different phases of the economic cycle.
- 4.) To examine whether there is a difference in how and/or to what extent WCM practices impact the performance levels of firms based on the phase of the business cycle they are in.

1.6 Methodological Overview

This research uses a quantitative and positivist methodology, which is consistent with the methodology used in previous research in corporate finance. The data for this research will be derived from a panel of U.S. retail organizations that are publicly traded. Firm-level financial data are obtained from the CompStat database. Macroeconomic data, specifically Gross

Domestic Product (GDP) growth rates, will be taken from the Federal Reserve Economic Data (FRED) database, and will also include indicators of business cycles as defined by the National Bureau of Economic Research (NBER). The primary method of analysis will use panel regression with fixed effects; this will control for unobserved heterogeneity that is specific to each organization. In order to assess the moderating effect of business cycles, moderation will be assessed through the introduction of interactions between the Indicators of Business Cycles and the Measures of Working Capital.

Using the research model, this research will assess whether or not there is a difference in the strength of the relationship between working capital efficiency and financial performance based on the business cycle phase. Sub-sample analyses and alternate variable definitions will serve to conduct robustness checks to ensure that the findings obtained are valid and reliable. To alleviate potential endogeneity, the author will adopt a two-step Generalized Method of Moments (GMM). The application of a two-step GMM provides confidence in the results obtained from the research and, therefore, provides greater confidence in the policy implications derived from this research.

1.7 Structure of the Thesis

The thesis is broken down into five separate chapters:

- Chapter 1 highlights the background, originality, importance, research problem, goal, aims and methods.
- Chapter 2 gives an overview of all previous theoretical studies and empirical evidence concerning Working Capital Management and business cycle.
- Chapter 3 details the research methodology including the data source, definition of variables and economic models.
- Chapter 4 explains the outcome of the analysis and discusses it according to the proposed hypotheses.
- Chapter 5 presents the conclusions and offers recommendations for future research.

1.8 Research Hypotheses

The study is formulated using the following three hypotheses:

(H1) The influence of economic conditions on operating capital management practises of retail firms can be determined using statistics.

(H2) Operating capital management practises can be helpful in predicting how firms operate depending on economic conditions, and (H3) factors relating to a firm's character can influence its operating capital management practises and how they affect operating performance.

These three hypotheses are proposed based on the premise that firms will engage in different financial management strategies depending on their external economic environment, as well as the degree of adaptability of the WCM. The acceptance or rejection of these hypotheses will provide a framework for WCM development that demonstrates the adaptability or lack of adaptability of WCM.

2. LITERATURE REVIEW

2.1 Introduction:

The goal of the literature evaluation is to create a complete theory-based and evidence-based rationale for knowing how the different enterprise cycles interact with the way retail companies manage their working capital (WCM) in the United States. A well-designed dependent review not only informs the reader as to the most recent state of knowledge in the area being discussed, but also creates awareness of current research through the construction of a theoretical framework that identifies the types of conceptual barriers that exist, methodologies that need improvement, and areas that need further investigation. This will ultimately provide a foundation for developing an evidence-based theoretical framework that can be empirically tested. The purpose of the current chapter is to provide an overview of macroeconomic and financial theories related to retail firms, to analyse the most important empirical studies relating to both enterprise cycles and working capital management, and finally to synthesise the results derived from the reviews in order to formulate the conceptual framework used in this thesis.

The cyclical and dynamic nature of macroeconomic environments provides an important basis for organisations' financial decision-making, especially in the retail sector, where financial practices are closely linked with both consumer behaviour and seasonal demand patterns. As such, retail firms often find themselves in a situation where they may not have access to the appropriate amount of cash flow during a period of economic contraction due to liquidity constraints, decreased consumer spending and increased levels of uncertainty, which, in turn, can influence the way in which an organisation manages its working capital components, including inventory, accounts receivable and accounts payable. Researchers have generally stressed the importance of putting financial decisions and practices into the context of the broader economy (Bloom, 2009), and this context becomes even more relevant when assessing organisation's financial performance during the different phases of the enterprise cycle (Jermann & Quadrini, 2012). Retail firms are particularly vulnerable to changes in the macroeconomic environment as their cash flow is heavily dependent upon their operational activities and, therefore, it makes sense to examine how the integration of financial theory with organisations' strategic financial management can lead to better decisions (Campello, Graham, & Harvey, 2010).

Over the past couple of decades, working capital management (WCM) has received significant attention due to its importance in determining firm performance. Many studies

have studied the Cash Conversion Cycle (CCC) as a proxy for WCM performance and the relationship between WCM performance and profitability, liquidity, and risk management (Deloof, 2003). However, these studies typically view the actions of companies as static and do not factor in the dynamic economic environment in which these decisions are made. Therefore, while a shorter CCC may be associated with increased profitability under stable conditions, the effectiveness of this measure during economic downturns is unclear (Baños-Caballero et al., 2010). The lack of consideration for macroeconomic variables within many empirical models is a significant theoretical and methodological gap that this dissertation aims to fill (Afrifa & Padachi, 2016).

Macroeconomic theory, particularly the Real Business Cycle (RBC) and Keynesian perspectives, can provide useful insight regarding how firms change their WCM position in response to changes in aggregate supply and demand. RBC theory suggests that firms optimally respond to a variety of external shocks by adjusting their investments and production activities (including inventory expenditures), which is viewed through the lens of credit risk (Kydland & Prescott, 1982). In contrast, Keynesian economic models place greater emphasis on the constraints of demand-side, liquidity choices, and how these factors influence firm behaviour during recessionary periods (Eggertsson & Krugman, 2012). While both models provide a wealth of theoretical insight, their application toward corporate finance, specifically with regard to WCM research, is limited. This limitation results in a fragmented theoretical underpinning within the literature leading to varying empirical findings (Bloom et al., 2018).

Another critical limitation of the literature is that it fails to differentiate between the multiple industries as they react differently to macroeconomic pressures. For example, the retail sector operates under different patterns due to seasonal stock cycles and the extreme sensitivity of consumers to price and income changes, and the reliance on alternative sources of credit. As a result, there is a need for more focused research within this specific setting so as to gain a clear understanding of how macroeconomic fluctuations affect WCM practices unique to retail (Gaur & Kesavan, 2015). Many existing studies present averaged results across different industries, thereby decreasing the importance and relevance of the conclusions regarding retail companies (Ebben & Johnson, 2011). Thus, there is a need for industry-specific research that takes into consideration not only company-specific factors but also the overall economic environment in which they operate (Aktas et al., 2015).

Methodological limitations still exist in the literature linking working capital management (WCM) to overall company performance. In general, several studies have used panel

regression analyses to determine the relationship between a company's cash conversion cycle (CCC) and return on assets (ROA) or return on equity (ROE). However, very few studies have considered macroeconomic control variables or studied moderating effects at various stages of the business cycle. The omission of dynamic modelling techniques, including interaction terms between WCM metrics and macroeconomic stability, decreases the strength of many of these analyses (Shin & Soenen, 1998). Additionally, recent research has identified several issues that affect the generalizability of findings related to WCM (Lazaridis & Tryfonidis, 2006), including sample selection biases, inconsistencies in variable definitions, and the level of aggregation of data. A comprehensive review of these methodological limitations not only highlights the need for better empirical modelling but also provides the foundation for subsequent research methodologies.

The current research seeks to construct an integrated theoretical framework on WCM through the exploration of its association with company performance within varying phases of the economic cycle. In doing so, this study not only responds to a growing call for context-sensitive research in finance (Díaz & Téllez, 2016), but also aims to provide valuable insights for financial executives operating in volatile economic conditions. Integrating macroeconomics and company-specific financial data represents an important contribution to our understanding of financial performance and strategic flexibility in the retail sector.

In summary, this chapter of the literature review will provide a foundation for this thesis by synthesising diverse bodies of scholarly knowledge on WCM, macroeconomics, and empirical methodologies. By doing so, it establishes the necessary groundwork for the development of the conceptual framework and hypotheses in later chapters. This literature review also highlights critical gaps in theoretical understanding and empirical practice regarding WCM, while simultaneously emphasising the importance of considering economic cycles in financial decision-making frameworks, particularly within the context of U.S. Retail organisations.

2.2 Theoretical Framework

This study's theoretical framework creates a high-level basis on which the investigation is based by synthesizing macroeconomic theories and perspectives of financial control to describe the ways in which operating capital management (WCM) efficiency is influenced by business cycles in the retail industry. The construction of this framework utilized both classical and modern economic theory of the economy on the macroeconomic level, financial

theories that specifically relate to WCM, and decision-making under conditions of uncertainty. The use of multiple disciplines is critical to the success of this study since the economy, at the macroeconomic level, is closely interrelated with business at the microeconomic level. In addition to establishing a conceptual framework for this research and a set of hypotheses that are consistent with the conceptual framework, Chapter 2 establishes the relationship between the hypotheses and the methodology with respect to macroeconomic conditions.

At the macroeconomic level, business cycles are expressed as recurring variations in financial activity, which are characterised by both growth and contraction. The Classical Economic Theory, which is based on the principle of Say, states that all markets tend to correct themselves and that businesses will continue to operate in the same manner following a change in the economic environment without significant change in their behaviour. According to the Classical Economic Theory, businesses are rational actors who will optimise both input and output levels regardless of the economy. The theory would lend to the belief that there should be little variance in operating capital management (WCM) practices during the different economic cycles (Barro and Grossman 1976). However, there have been many criticisms of this theory's ability to adequately capture the short-term behaviours of businesses in relation to financing. There are cases where, due to liquidity shortages or demand disruptions, businesses change the way they manage the components of their working capital: i.e., inventory holdings and accounts receivable, during periods of economic downturn (King and Levine 1993). Therefore, while the classical approach has historically served as a foundation for macroeconomics, it is incapable of explaining the deviations that occur in WCM performance during the different phases of the economic business cycle.

Keynesian economics emphasizes demand, liquidity preference, and frictional factors due to an enterprise cycle not having a self-adjusting mechanism and the need for active involvement by business firms and government agencies as a result of the crisis. According to Keynes (1936), businesses tend to hoard cash, delay investments and restrict credit during the economic downturn. The liquidity preference theory provides that during times of recession, businesses will determine their cash reserves first before investing in long-term capital, therefore creating a conservative working capital management (WCM) policy. Many authors have extended this line of thought to clarify how uncertainty and negative sentiments lead businesses to accumulate cash reserves and reduce their accounts receivable turnover (Fazzari, Hubbard, & Petersen, 1988). Therefore, the Keynesian view provides a central tenet

for this research in defining how economic downturns force retailers to reprioritize their short-term finance strategies.

The RBC theory is a more modern economic model developed by Kydland and Prescott in 1982; RBC argues that changes in technology (exogenous shocks to technology) cause economic fluctuations. Firms are hypothesized to respond optimally to technological changes by altering production, investment and financing strategies. The RBC theoretical model can provide insight to help define inventory changes during economic downturns and expansions. Empirical studies have shown that firms tend to decrease their inventory turnover rates when demand drops and firms conserve their inventory to wait for a rebound (Chen, Frank, and Wu, 2005). In addition, the RBC model fits the inventory management procedures used by retailers in WCM. However, the RBC model has been criticized for underestimating the effect of financial constraints and irrational behavior on firm decision-making during times of financial distress (Cochrane, 1994). Thus, while RBC offers an explanation of how firms respond rationally to exogenous shocks, it should be supplemented with other theories that fully address the impacts of financial friction on firms.

From an economic theory perspective, the Cash Conversion Cycle (CCC) is a concept related to working capital management (WCM) since the CCC indicates the length of time that passes between the outflow of cash to purchase inventory and the inflow of cash through customer payments. The shorter the CCC, at the same time, indicates the more effectively a company is managing its operating capital and more theoretically, improving the company's liquidity and profitability through efficient management of the CCC (Sharma & Kumar, 2011). However, the efficaciousness of the CCC, for purposes of performance measurement, can vary greatly due to the economic cycle. During boom periods, companies will finance their longer receivable terms to generate sales (Emery, 1984), while during recessionary periods, the companies will enforce more stringent collection policies and delay payable dates. Trade Credit Theory provides an explanation for this behaviour, where a company that has financial constraints can use supplier-financed purchases to consume a subset of their working capital during difficult financial conditions and typically do so more aggressively during downturns (Ng, Smith, & Smith, 1999). In addition, Transaction Cost Theory (TCT) explains the company's cost-benefit analysis that takes place regarding the cost of holding, and protecting stock, versus, the cost of stock-outs. The premise of TCT is that, during various economic conditions, companies adjust the components of their working capital based on a cost-benefit analysis of the transactions costs associated with different economic conditions. During recessions, companies may increase the amount of inventory greater than

is necessary, to decrease the risk associated with the higher uncertainty and higher cost for obtaining external financing (Williamson, 1981). This type of analysis and adjustment to the working capital elements of a retail organisation is especially applicable to the retail sector because of the direct impact that stock availability has on the customer satisfaction and sales of the company. When a retailer is restricted by the economic uncertainty associated with managing their stock, transaction cost issues will become a primary factor in the effectiveness of the retailer's WCM. In addition to TCT, the Precautionary Motive for holding cash, which is derived from Keynesian theory's liquidity preference, also plays an important role in the theoretical discussion of WCM. According to Opler et al. (1999), firms will hold a larger than normal cash reserve, not only to meet their normal day-to-day obligations but, also as a buffer against unplanned expenses or downturns. The precautionary motive becomes even more pronounced during times of economic contraction because of the difficulty and expense in obtaining external financing. Retail firms have unpredictable sales and demand cycles and therefore, will tend to increase their cash reserves at the expense of investing in short-term investments, which creates disruptions in the normal aspects of working capital management. Therefore, in addition to the other economic theories discussed, the precautionary motive for holding cash provides a behavioural reason for differences in working capital management under conditions of macroeconomic uncertainty.

The Pecking Order Theory explains how organizations are more likely to prefer financing themselves through internal sources due to having more advantageous information than external sources (Myers and Majluf, 1984). This theory relates to the management of working capital and allows us to prioritise the use of retained earnings to finance inventory and accounts receivable when economic downturns occur. During contractions in the economy, companies adjust their working capital management structure (WCM) to reduce their reliance on external sources of debt or equity by limiting their ability to obtain access to these funds, usually by reducing inventory levels or reallocating working capital through renegotiating terms with their suppliers. The Pecking Order Theory also supports the findings of empirically based studies which show companies reduce their inventory and collect receivables within shorter time windows when they are experiencing financial difficulties during times of economic contraction (Huang and Ritter, 2009).

Alternatively, the Dynamic Capabilities Theory provides a strategic management perspective of firms and states that the overall performance and long-term viability of a firm depends on the firm's ability to respond to changes in their environment, such as the economy, through changing the configuration of their operating and financial resources (Teece, Pisano, and

Shuen, 1997). Dynamic capabilities allow firms to adapt working capital policies to suit a cyclical environment. For instance, firms have the ability to change their payment terms rapidly and/or renegotiate credit limits with suppliers, thus providing them with an opportunity to retain liquidity and profitability during economic contraction. On the other hand, companies that do not possess these dynamic capabilities will have difficulty preserving liquidity and profits during economic contraction. Hence, it can be concluded firm-specific dynamic capabilities are moderating variables affecting the relationship between business cycles and working capital management effectiveness.

The Resource-Based View (RBV) complements the Dynamic Capability Theory. The Resource-Based View states WCM effectiveness is both a measure of financial effectiveness and a measure of firm-specific capabilities stemming from the firm's resources meeting the attributes of value, rarity, inimitability, and non-substitutability, constituting the competitive advantage of a firm (Barney, 1991). Therefore, the management of working capital effectively will represent a sustainable competitive advantage for firms over their competitors during times of economic decline. Companies employing advanced information technology for WCM management, equipped with a strong financial controller, or a strong relationship with their suppliers, will have more consistent WCM metrics throughout the business cycle. The management of WCM supports the concept of the RBV.

Thus, the synthesis of the literature associated with macro theory, financial management, and strategic decision making creates an adequate conceptualisation of WCM effectiveness as viewed across different economic conditions characterising the business cycle. The combination of Classical, Keynesian, and Real Business Cycle Theories with Credit Theory, Transaction Cost Analysis, Resource-Based View and Dynamic Capability Theory creates a comprehensive view of how companies modify their short-term financial strategies in reaction to fluctuating business cycle impacts on the economy. The theoretical framework provides both a basis for the development of hypotheses as well as a basis for developing an empirical model and interpreting the findings built upon in the subsequent chapters.

2.3 Empirical Evidence on Working Capital Management and Business Cycles

Working capital management has been multiplying very well in empirical literature for the last few decades, particularly as companies are seen to be adjusting short-term financial policies during the macroeconomic uncertain periods. This section involves an empirical synthesis from global and local contexts with a focus on how WCM practices do shift across

different business cycles. Empirical studies track rather complicated, adaptive responses rooted in firm size, industry, liquidity needs, and external financing conditions; theoretical models often assume the firm's behavior as static. The intention here is to understand not only whether WCM affects corporate performance but how its efficacy varies during expansions and contractions.

A substantial amount of research has shown that WCM efficiency immediately influences profitability and liquidity of corporations. Thus, using a very large drawing sample of Belgian firms, Deloof (2003) found that a decline in the cash conversion cycle (CCC) much improved firm profitability especially for manufacturing sectors. His study found that firms that shortened the period between inventory purchase and cash receipt performed better than their peers whose CCCs were longer. The inference was obvious: short CCCs allow firms to invest capital faster, hence reducing dependence on outside debt, an effect that becomes all the more significant during economic contractions when credit becomes tight. Then again, this finding was echoed elsewhere in the country. Studies such as those of Lazaridis and Tryfonidis (2006), who found much the same effects in the Athens Stock Exchange, emphasize generalizability of the CCC-profitability link in emerging markets.

However, in most instances, the distinction between WCM and company performance is usually moderated by macroeconomic cycles. Among the first attempts to empirically address this dynamic relationship was Baños-Caballero et al. (2010), who analyzed a large dataset of Spanish small and medium enterprises (SMEs). Their results indicated that firms have a more conservative working capital policy during recessions. Shortening of inventory and receivables periods was associated with reduced exposure to risk while lengthening of payables was undertaken to conserve cash for much-needed expenses. This adjustment behavior has brought credibility to the argument that business cycles affect financial decision-making at the corporate level. The researchers further stated that aggressive policies in working capital management would have more adverse effects in downturns, particularly for liquidity-poor firms, emphasizing the interaction between micro firm characteristics and the macroeconomic environment.

In bad economic performance, the firm tends to face a lot of uncertainties, reduced returns on its activities, and very limited access to credit. All of these compels firms to reconfigure their WCM strategies so that they can respond accordingly. The authors investigated the effect of income volatility on Finnish firms during the 2008 financial crisis wherein they found that their control over stock was tightened while decreasing their average collection periods. Their findings showed that the WCM became very sensitive to the macroeconomic conditions in

industries of narrow working margins like retail. Those firms rendered focus on maintenance of cash rather than profits maximization, indicative of the fiscal priority change created by the macroeconomic constraints.

If the WCM is good enough, it can be used as a buffer enhancing temporary solvency and enabling firms to operate despite very negative conditions. Other empirical studies have tried to investigate how firms in developing economies are affected by financial cycles in their WCM changes. Nazir and Afza (2009) did longitudinal analysis on listed companies in Pakistan and reported that more aggressive WCM policies (defined as lower levels of current assets and liabilities) were associated with higher profits during conditions of economic stability. However, these same policies turned out to be riskier during times of downturn, causing higher rates of default and operational inefficiencies. According to the authors, these emerging markets lack most financial hedging mechanisms and consequently rely heavily on internal financing and short-term liquidity management as a way of surviving the recession periods.

This empirical observation indicates adaptive WCM strategies in environments where capital markets are neither well developed nor outside shocks tend to disproportionate effects. Evidence that cuts across sectors comes from the retail industry. A study by Hill, Kelly, and Highfield on U.S. Retail and production companies during the 2007-2009 storm reported that retail firms moved more quickly and aggressively in adjusting their operating capital positions. Among the operating capital adjustments by retail firms were reduction in stock purchases, extension of receivables collection, and renegotiation of payables terms with suppliers. Their operational flexibility and closeness to the end consumer enabled a quick response to falling demand, illuminating how dynamics in an industry shape WCM effectiveness. The study also found that those firms that had better pre-crisis WCM metrics reported less variability in inventory valuation and rated possible greater recovery as indicated by their post-disaster recovery ratios, signifying long-term benefits of proactive management of liquidity.

Many researchers have relied on time series and panel data models to examine the differences in WCM during different phases in an industry cycle. Ukaegbu (2014) used panel data on Nigerian firms for a decade and found that WCM decisions were very cyclical, whereby firms greatly constrained their working capital positions during recession periods. His findings suggest that firms have managed payables as an important leverage for reducing cash outflows, especially in times of demand shocks or an inventory overhang. The study also suggested that excessive inventory reduction during recession could lead to stockouts during

the subsequent recovery phase, reflecting a trade-off between short-term performance and longer-term operational resilience.

Aktas, Croci, and Petmezas's empirical work in 2015 contrasts. They took WCM in the context of corporate acquisitions and proved through their research that firms planning for mergers or strategic acquisitions would liberalize their WCM policies during expansionary periods to enhance their top-line growth and better their perceptions in the market. This general loosening of policies during booms can lead to a deterioration of liquidity buffers, which become difficult later on during downturns. This cyclical over-optimism with regard to WCM planning reflects the behavioral finance dimensions in empirical data and drives home the importance of aligning short-term fiscal management with strategic risk mitigation.

In recent empirical literature, however, such advances in econometrics have included the application. Sharma and Kumar (2020) found that varying through contraction and economic expansion periods, the effectiveness of WCM on corporation profitability is rather diverse. This study on Indian manufacturing firms found that in monetary booms, a CCC that is relaxed produces a positive effect on organizational performance, while the same strategy results in diminished profitability in recessions. This uneven relationship sustains the notion that business cycle phases moderate the WCM-performance link, thereby necessitating dynamic policy frameworks.

Cross-country comparative studies reflect a great deal of analysis into how institutional settings and economic infrastructure affect WCM behavior over the business cycle. In a study with BRIC companies, Pais and Gama (2015) found that differences in institutional access to credit, governance, and tax policies played significant roles in the ways companies adjusted their working capital accounts. Some firms will, for example, conduct an aggressive cut on their inventories during the contraction periods compared with others that tend to focus on receivables; Russian companies, on the other hand, have carried out such changes focusing more on receivables. These differences were attributed to country-specific variations in performance of the banking sector, exchange credit norms, and supply chain structures, reinforcing the need to consider contextual factors when interpreting empirical WCM effects. The COVID-19 pandemic has elicited new empirical inquiries into WCM under severe economic compression generated by the pandemic. Research such as that by Iyke and Ho (2021) showed that firms in Southeast Asia, among other responses to the crisis, increased cash holdings while tightening borrowings. One of the lessons of the pandemic period was the value of precautionary liquidity and discovering new forms of cooperation between supplier and customer, such as deferred payment terms and emergency credit lines. Most

importantly, firms that possessed well-founded WCM practices before the pandemic were found to have become more resilient and required less restructuring effort. The fact that WCM efficiency prior to the crisis has a rather strong predictive relationship with post-crisis recovery outcomes and suggests that forward-looking considerations may play a role in recovery processes over time.

Synthesizing empirical literatures, the following general themes cuts across: first, CCC often remains the most popular measure of WCM performance, while components-it comprises inventory days; receivable days; payable days, always understood to drive company profitability. In addition, business cycles have a more considerable effect on WCM practices whereby companies tighten controls during contractions and loosen controls during expansions. Given this, action effectiveness bears considerable mediation by particular organization features like size, quarter, and economic flexibility. The recent, however, talked about empirical research seems to emphasize the necessity of dynamic WCM models that allow for real-time response to macroeconomic signals.

Thus, this review of empirical evidence supports the main premise of the present study that WCM productivity is not static but is instead contingent on the outside economic conditions then prevailing. The capacity of retail firms to adapt these momentary financial practices under changes of the macroeconomic environment is dependent on strategic purpose but also on institutional, behavioral, and operational constraints as well. Thereby grounding the justification for the current design of research, which looks to investigate changes in WCM over different business cycle stages in the retail sector using financial data from the real world and regression-based modeling.

2.4 Critical Discussion and Conceptual Gaps in Working Capital Management Research

The previous literature has thoroughly established the importance of working capital management (WCM) during different financial conditions. Notwithstanding the empirical importance attached to the relationship between WCM and organizational performance, certain significant lapses exist within the academic discourse. The above-mentioned relate to the inconsistent treatment meted out to financial cycles, restriction of quarter-specific analyses, an area of over-concentration within the positive markets, and negligence of theoretical integration. This section critically reviews the current state of empirical evidence, catalogues inconsistencies, and establishes uncharted territories in WCM scholarship mainly with respect to fluctuations in the business cycle.

Foremost should be the unfortunate lack of any unifying theoretical lens through which WCM is interpreted in the literature. Most authors, including Deloof (2003) and Lazaridis & Tryfonidis (2006), present positive results of lower cash conversion cycles (CCC) on profitability but very rarely associate these results with larger economic theories, either Keynesian liquidity preference or pecking order theory. Thus, WCM remains largely empirical, fragmented, and devoid of a structured theoretical scaffold that can unify and contextualize the observed phenomena in various settings. This disconnection inhibits the development of predictive models and further limits the broader application of findings across diverse sectors and geographies.

The few that modeled WCM functionality with the vast majority of the researchers acknowledging macroeconomic fluctuations. Studies by Baños-Caballero et al. (2010) and Enqvist et al. (2014) provided useful insights into WCM behavior in downturns such as the global financial crisis. However, these studies tend to view economic context as a background factor rather than a structural determinant; as such, most analyses remain either cross-sectional or static and fail to capture the dynamic mechanisms organizations employ in response to changing macroeconomic pressures. Therefore, our understanding of how firms adjust their working capital strategies in anticipation and during or after a recession or boom is limited.

Another issue is the focus of geography within the WCM literature being on developed nations. It has been noted that empirical works are largely drawn from European markets (i.e., Belgium, Spain, Finland), leaving various big emerging markets grossly under-researched. Nazir and Afza (2009) provided a brilliant exception by investigating Pakistani enterprises, however it is noted that such studies are rare. Emerging markets often present unique institutional challenges--such as restricted access to credit, weaker investor protections and inefficient legal structures--that shape WCM in ways that may be completely different. Ignoring these contexts would only serve to entrench an empirical bias and limit our grasp of how working capital strategies operate under different institutional constraints.

Contemporary literature, in terms of sector-specific understanding, lacks depth. While some studies, such as Hill et al. (2010), have investigated how retail firms react to times of economic distress, only a handful offer industry level comparisons. This might be one of the critical gaps; in capital-intensive sectors (such as manufacturing or construction), the WCM decisions are vastly different from those in service-oriented or retail industries. Furthermore, companies with seasonal demand patterns or longer supply chains may exhibit varying sensitivities to the fluctuations in the business cycle, requiring specialized WCM approaches.

Without this kind of disaggregated information by industry, recommendations based on generic outcomes could mislead firm-level decision-making.

For even further elucidation of these empirical patterns, a summary of the major studies discussed in the previous section is presented in Table 1. It notes geographical focus, methodological approach, and principal findings of each study, thus allowing for a comparative assessment of the existing knowledge.

Table 1: Summary of Empirical Studies on Working Capital Management and Economic Cycles

Author(s) & Year	Region/Context	Key Focus	Findings Summary
Deloof (2003)	Belgium	CCC & Profitability	Shorter CCC improves profitability
Lazaridis & Tryfonidis (2006)	Greece	CCC & Profitability	Efficient CCC correlates with higher returns
Baños-Caballero et al. (2010)	Spain (SMEs)	WCM in Recession	Conservative WCM preferred in downturns
Enqvist et al. (2014)	Finland	WCM over Cycles	WCM adapts to business cycle phases
Nazir & Afza (2009)	Pakistan	Aggressive vs Conservative WCM	Aggressive WCM risky during recessions
Hill et al. (2010)	USA (Retail/Manufacturing)	Crisis Response	Retail firms adjust WCM more dynamically
Ukaegbu (2014)	Nigeria	Cyclical Adjustment in WCM	Firms tighten payables/inventory in recessions
Pais & Gama (2015)	Portugal	SMEs Profitability	Institutional context shapes WCM effectiveness
Iyke & Ho (2021)	Southeast Asia	COVID-19 WCM	Liquidity management was crucial in crisis
Sharma & Kumar (2020)	India	CCC & Cycle Phases	CCC effect on profitability is asymmetric

However, even though there was some consensus on the general importance of efficient WCM, the circumstances under which these are most effective have remained contentious. While some studies recommend going for aggressive WCM even during downturns (for example, Nazir and Afza 2009), others emphasize a shift to conservative policies (for

example, Enqvist et al. 2014). These opposing views accentuate the need for a contingency approach that draws insights from the industry, firm size, and the underlying local economic infrastructure.

The COVID-19 pandemic has furnished an extreme case study of low WCM under uncertainty. Iyke and Ho (2021) found that corporations in Southeast Asia maintained high liquidity through a restructuring of receivable policies and delaying payables where possible. However, there is still very limited longitudinal data on the evolution of such alterations post-crisis. Future research should focus on maintaining or abandoning disaster-initiated WCM regulations until macroeconomic stability returns. Did the firms revert back to pre-disaster standards, or was there a structural change in operating capital behavior?

Another lesser-studied area is the behavioral dimension of WCM decisions. Most empirical studies assume rational behavior of firms while behavioral finance studies suggest that managerial overconfidence, loss aversion, and anchoring tend to impair real economic decision-making during stressful conditions. Firms may extend credit to customers or build inventory excessively during boom times due to their optimism only to suffer through bad times. On the other hand, excessive pessimism may result in underinvestment in inventory or very tight credit rules that affect sales. Such behavioral factors deserve some more empirical attention and may shed light on the rationale behind the lack of consensus in implementation of WCM strategies.

Another critical methodological limitation is the reliance on linear regression techniques that assume time- and firm-invariant single-valued effects. More advanced approaches such as threshold models or quantile regression, as illustrated in Sharma and Kumar (2020), offer a more nuanced understanding of the non-linear relationship between WCM and profitability. These models then enable examining the extent to which WCM policies that would work during booms are sustained during recessions, and vice versa. For this reason, the gross underutilization of such methods gives future research significant inroad.

Similarly, the impact of digital technology and supply chain integration on WCM today has not been extensively studied. Companies have more tools than ever in optimizing WCM through real-time inventory visibility, AI-based credit scoring, and dynamic pricing model. Yet empirical studies would seldom integrate digital maturity as a moderating variable. Future studies should investigate how firms with better digital integration fared during recent economic disruptions compared to their lesser tech-enabled counterparts and provide insights into the changing landscape of financial agility.

Lastly, stakeholder-driven outcomes present an important gap in current literature. While

profitable and liquid firms remain highly desirable, WCM impacts jobs and workplace stability, supplier relationships, and consumer satisfaction. Pursuing short-term cash performance with unstructured focus may likely erode long-term supplier trust-building efforts or consumer loyalty. A handful of studies have attempted to balance financial metrics alongside stakeholders' perspectives to the detriment of a one-sided approach to determining WCM success.

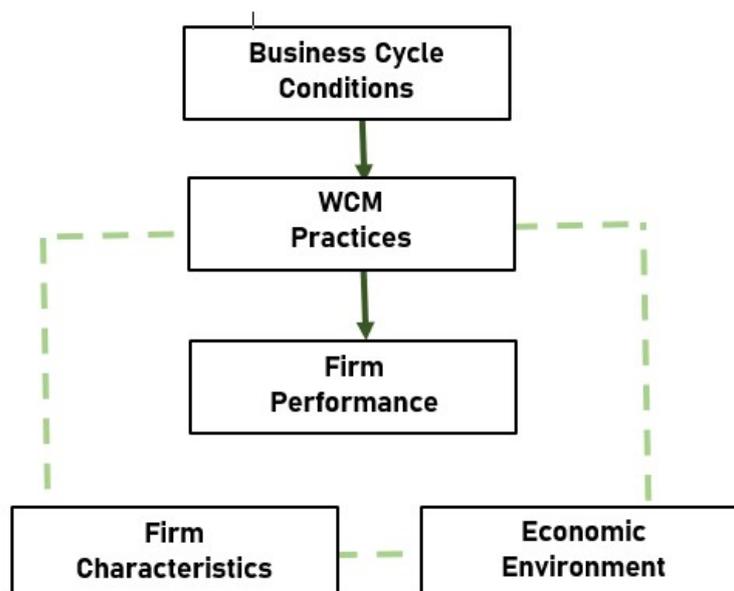
We offer a brief summary of the empirical literature on working capital management throughout business cycles, which are quite valuable, albeit partial, insights. The deepening theoretical integrations, broadening geographic and industrial context, adopting econometric tools that advance the field, and operationalized consideration of behavioral and technological variables are the urgent need concerning the research front. Addressing these gaps therein will render future studies more pragmatically useful and context-sensitive for firms that are traversing their financial maneuvers between the highs and lows of economic activity.

2.5 Conceptual Framework

This conceptual framework that has been advanced for this look at combines basic monetary theory with empirical observations to explain how enterprise cycle fluctuations are put in control of working capital management (WCM) practices, and thus organization overall performance eventually in the retail area. Central to this framework is the acknowledgment among phases of an economic upturn and downturn that conditions are the primary external drivers of organization financial behavior. Expansionary conditions typically present favorable credit conditions and additionally increasing client demand and improved cash flow, which may encourage some firms to adopt more liberal working capital policies, such as a longer receivables period or higher inventory levels. Recessions or contracting phases are typically associated with a drop in sales, liquidity constraints, and poor access to credit that drive many firms into more conservative WCM practices, such as shorter CCCs, less generous credit terms, and leaner inventory management. Changes to WCM practices should be seen as a mediating mechanism through which this monetary fluctuation works in affecting company performance, which in this framework is measured by indicators, such as profitability, liquidity, and operational efficiency. However, that importance in company performance is not the same in all business firms. The frame includes organization characteristics, namely size of firm, sectoral association (focusing most on retail), and level

of digital maturity-, as moderating variables that affect the strength and direction of this relationship. Larger size should also theoretically give companies somewhat more financial flexibility and technological infrastructure to adjust quickly to monetary shocks while smaller firms are likely to show more operational stress with little buffer by way of limited finances. Other moderating dimension identified is the macroeconomic environment in which interest rates, levels of inflation, and stability in currency exchange are included. These macroeconomic variables will have an effect on both the value of capital and consumer purchasing power, thus indirectly shaping the WCM decision and performance outcomes. This framework posits that the most averaged WCM at the time of downturn would protect the business from adverse cash flow effects and strengthen its solvency, while the inefficiently or misaligned strategy will only aggravate the pressure. However, the inverse holds true during expansion; overly conservative WCM may also restrict the growth potential, thus demonstrating the need for dynamic context-responsive financial strategies. Indeed, this conceptual model would reflect a completely holistic and systems-oriented view to situate running capital decisions in the temporal rhythms of the economy, customized by firm-level features and macro-level constraints. By modeling those interrelationships, the study aims at empirical validation of whether or not working capital management serves as a strategic lever to navigate financial volatility and performance sustainability within the dynamic u.S. Retail sector.

Figure 1: Conceptual Framework



3: RESEARCH METHODOLOGY

This chapter elaborates on the method used in this research to empirically investigate how WCM decisions in the retail industry are affected by cyclical variability and how these decisions affect the performance of firms within that industry. Specifically, the chapter describes the three main objectives of the research and answers the three essential questions regarding why this method, how the research was conducted, and why the selected method is appropriate for this study. In other words, the methodology is based upon established empirical practices and draws from past scholarly works to provide the highest level of rigor and relevance possible for this study.

3.1 Research Purpose and Model Design

The primary focus of this research is to determine how economic fluctuations, specifically changes in the business cycle, affect the way retail companies manage their financing in the short term. More specifically, this research will look at how retail companies change their inventory management practices, accounts receivable practices and accounts payable practices in relation to increasing or decreasing business cycles.

The second goal of this study is to determine if these types of working capital management practices serve as mediators for the larger relationship between macroeconomic conditions and firm performance.

The model developed in the previous section will guide the data collection for this research. The model incorporates business cycle conditions as the independent variable, working capital management practices as the mediating variable and firm performance as the dependent variable. In addition, firm characteristics, such as size, age and nature of operations, will be accounted for as moderating variables that may influence the effectiveness of WCM practices during different types of business cycles.

This research model is also inspired by previous research that supports the assertion that firms need to integrate their internal financial strategies with external economic conditions (Enqvist et al., 2014; Aktas et al., 2015). By being sensitive to time intervals for adjusting working capital, firms may use working capital as a buffer against economic swings, especially in the retail sector, where the timing of cash flow can greatly affect sales due to demand factors.

3.2 Hypotheses Formulation and Variable Description

The empirical section of this thesis is supported by a number of hypotheses regarding the predicted relationships between key variables:

- H₁: Economic conditions (both macroeconomic and microeconomic) significantly impact the Working Capital Management practices of Retail, Service and Combination types of firms.
- H₂: Working Capital Management Practices mediate the relationship between economic conditions (both macroeconomic and microeconomic) and a firm's performance.
- H₃: The relationship between Working Capital Management Practices and a firm's performance is moderated by that firm's characteristics.

The study will utilise traditional and well-established measures for each of the variables involved. To measure economic conditions, the study will employ annual GDP Growth Rates and Consumer Confidence Indexes, both of which have been shown in economic literature to be valid proxies for cyclical swings in the economy (Narayan & Narayan, 2010). To measure Working Capital Management, the study will employ Cash Conversion Cycle (CCC), Current Ratio and Inventory Turnover Ratio measures, all of which are indicative of how efficiently a firm is managing its short-term assets and liabilities.

The study will utilise Financial Ratios (the Return on Assets (ROA), Net Profit Margin and the Return on Equity (ROE)) to represent Firm Performance. Each of these financial ratios is commonly employed when analysing firms' financial performance. This study utilises Financial Ratios so that the researcher may clearly represent a firm's operational success (Deloof, 2003). In addition, the study will use three firm characteristics to identify possible moderators: (1) the total number of firm's assets, (2) the total number of employees and (3) the age of the firm.

3.3 Data Collection Procedures

This research study selected only secondary data to collect from either financial information published publicly, industry based reports or governmental statistical databases. The annual financial performance of U.S. based retail sector companies, who are listed on either NASDAQ or the New York Stock Exchange (NYSE), was collected for the study period

from 2011 through 2022, from publicly available financial statements. The macroeconomic performance indicators selected to use for the quantitative part of the study (i.e., gross domestic product growth and consumer confidence index) were obtained from trustworthy institutional sources (e.g., U.S. Bureau of Economic Analysis, Conference Board). The researcher employed a purposive sample approach to identify companies that are officially classified as participating in the retail trade sector (as defined by North American Industry Classification System [NAICS]). To be included in the analysis, it was required that all companies provide complete financial records beginning with 2011 and for at least eight (8) of the twelve (12) study period years.

Additionally, companies were excluded from the analysis for not providing any data, or for having changed their ownership structure (i.e., through Mergers & Acquisitions) within the study period timeframe in order to maintain the consistency of the analysis. The final sample included 49 companies, whose retail sub-sectors represented a variety of retail industry types including but not limited to department stores, consumer electronics, food and grocery, and online retailing (e-Commerce). The justification for a researcher to use secondary data is based on both its broad accessibility and its level of reliability and consistency. Financial statements submitted by companies to the Securities and Exchange Commission (SEC) are subject to stringent audit requirements and therefore are viewed as providing reliable information for the purposes of academic research (Bryman, 2012). Furthermore, secondary data spanning multiple years provides researchers with opportunities to observe changes and/or trends over time, which is critically necessary in assessing whether the cyclical fluctuations experienced by companies have had a positive or negative impact on the overall performance of these companies.

3.4 Data Analysis Method and Tool Justification

The method of performing statistical analyses for the purposes of this study will be completed using IBM SPSS Statistics software because this software is widely used for its reliability, ease of use, and extensive analytical capabilities in academic research. SPSS is an exceptional tool to execute regression analyses, conduct mediation tests, and execute exploratory data analyses efficiently; all of which are the foundation of this research project.

The data analysis is performed in steps. The first step of the analysis involves producing descriptive statistics as an initial step to understand the central tendency, dispersion and

distribution of the variables involved in the analysis. The first step also helps establish an overall view of trends within the data set, and also identify outliers, if any, which may affect the outcome of the results.

The next step of the analysis includes performing Pearson's correlation analysis to explore the strength and direction of the relationship that exists between the three variables (independent, mediating, and dependent). After that, multiple linear regression analyses are conducted to examine the direct relationship that business cycle variables have with the WCM metrics, and subsequently with the impact that WCM metrics have on the indicator of the company's performance.

To determine if mediation is present in this data set; the authors of this study will use the PROCESS macro of Hayes in SPSS Model #4, and employ the bootstrapping technique (with 5000 resamples) to calculate the confidence intervals to establish the reliability of the results related to mediation.

The same Hayes PROCESS macro is utilised to determine whether there is moderation of the WCM to Company Performance relationship by Firm Size, using Model #1; which uses Interaction Terms and Mean Centered variables for the Moderated regression to minimize the collinearity issue.

3.5 Justification of the Research Methodology

This study uses a suitable methodology for numerous reasons. The research questions seek to numerically assess the relationships between quantifiable research variables; therefore, using a quantitative methodology is necessary. With qualitative methodologies, depth is gained while sacrificing the ability to generalise, while quantitative methodologies enable researchers to gain a broader set of conclusions based upon the statistical data (Creswell, 2014).

Furthermore, by relying on the secondary financial data, the researcher can access the decade of data necessary to identify patterns, while concurrently providing macroeconomic indicators, without having to expend the resources needed for primary data collection. The financial health of firms and the behaviour of their working capital must be explored and analysed using the actual reported financial figures that are currently available and have been verified through an established institution.

Another reason for choosing SPSS as the primary data analysis tool is that it has been proven to be a popular statistical tool within the academic disciplines of finance and economics. Therefore, it has all of the necessary functions to undertake mediation and moderation analyses, and to supplement the findings with reliable statistical indicators to provide additional validation to the results presented.

Finally, this methodology design remains in congruence with the methodologies that have been described in prior academic literature investigating the use of financial strategies in the course of changing economic cycles (Shin & Soenen, 1998; Banos-Caballero et al., 2012). This similarity to previously defined empirical methodologies proves the rigorous nature of this research study and situates this study within the previously identified body of knowledge, which enhances both the academic and practical value of this study.

CHAPTER 4: EMPIRICAL ANALYSIS

4.1 Introduction

The empirical portion of this thesis is contained within this chapter. Here, the researcher will shift from discussing the theoretical and methodological foundations laid to provide the statistical analyses used for this empirical study. The purpose of this research is to identify how fluctuations in the business cycle impact both working capital management (WCM) and performance of US retail companies. To accomplish this, the chapter describes and analyzes a panel dataset composed of a representative sample of US retail companies from 2011 - 2022.

This chapter is organized around testing the hypotheses defined in Chapter 1. In order to achieve this, the analysis progresses through various steps, each building upon previous results. To characterize the sample and determine the most important characteristics of the various variables within the dataset, descriptive statistics and outlier analysis were conducted to gain an overview of the data. A correlation analysis was also performed to examine the preliminary relationships between WCM measures, indicators of performance, business cycle variables, and firm characteristics. A secondary objective of the correlation analysis was to identify and diagnose any potential multicollinearity problems prior to conducting regression analysis.

The majority of this chapter is devoted to establishing the multiple linear regression results necessary to test the hypotheses outlined in Chapter 1. The first step in this analysis will be to examine how business cycle conditions directly affect the WCM practices of retail companies (i.e. hypothesis H_1). The subsequent portion of the analysis will focus on determining whether these WCM practices affect the performance of retail firms. Building upon these analyses, the chapter will also present an in-depth mediation analysis, analogous to Hayes' PROCESS Model 4, which aims to test hypothesis two (H_2): WCM practices are mediators of the relationship between business cycle conditions and retail firm performance. Additionally, a moderation analysis, equivalent to Hayes' PROCESS Model 1, will be performed to test the final hypothesis (H_3): Firm size moderates the effect of WCM on performance of a retail firm.

All of the analyses included in this chapter are based upon the use of sound statistical techniques. Tables and interpretative commentary for each of the analyses are provided, and a summary of the results will be presented at the end of this chapter that will also focus upon

how these results fit into the broader context of existing research, and the theoretical and practical implications this will have.

4.2 Data Sample and Descriptive Statistics

4.2.1 Data Collection and Sample Formation

The dataset used for the empirical analysis was created from several different types of secondary source data based specifically on information presented in the methodology section. The dataset was made up of publicly traded retail companies located in the United States as defined by the North American Industry Classification System (NAICS) classification codes for retail (44-45). Annual financial data for each company were collected from an all-inclusive collection database years 2012 to 2023, which allowed the researcher to ensure the quality and accuracy of the accounting data.

Macroeconomic information consisted of the consumer confidence index, gross domestic product (GDP) growth and National Bureau of Economic Research (NBER) recession data and were available through the Federal Reserve of Economic Data (FRED) database.

An intentional filtering of the original dataset was done, and as a result, the researcher has been able to create an adequately structured dataset that could be subjected to time series analysis without excessive sample loss. Companies underwent significant structural changes (major mergers or acquisitions), which would affect the results, were not included to preserve consistency within the panel and avoid confounding factors.

After completing all filtering of the data, the end result is a sample of 49 unique U.S. retail companies providing a total of 407 firm-year observations.

4.2.2 Variable Operationalization

According to the methodology, the analysis will utilise specific variables that are well-defined.

Working Capital Management(Metrics): Cash Conversion Cycle (CCC) is the focus in much of the literature; however, this study incorporates additional direct measures of both liquidity and financial policy in regards to working capital management. These other measures for working capital management are as follows: Cash Rs Ratio, Debt to Equity, Asset Turnover and Cash and Equivalents.

Firm Performance Metrics: Four major metrics used to represent firm performance are Return On Assets (ROA), Return On Equity (ROE), Net Profit Margin and Operating Margin in order to provide greater perspective of performance.

Business Cycle Indicators: Macroeconomic conditions can be analysed via the following indicators: GDP Growth Rate, Consumer Confidence and the existence of a Recession or Recovery indicator.

Other Firm Characteristics(Moderator): Total Assets served as the moderator and therefore firm size is defined by Total Assets.

4.2.3 Descriptive Statistics

Table 4.1 presents, in tabular form, each of the key descriptive statistics for the data contained within this dataset; from these key statistics we will form our preliminary assessment of central tendency, dispersion and the range of the dataset.

Table 4.1: Descriptive Statistics of Key Variables

Variable Category	Variable	Count	Mean	Std. Dev.	Min	25 %	50%	75%	Max
WCM Metrics	CashRatio	407	0.182	0.259	0.001	0.035	0.088	0.226	1.595
	DebtToEquity	407	0.514	7.797	-57.615	0.080	0.377	0.735	117.410
	AssetTurnover	407	1.491	0.936	0.012	0.706	1.364	2.136	4.438
	Cash & Equivalents (Billion USD)	407	1.952	5.188	0.000	0.127	0.400	1.481	53.888
Performance Metrics	ROA (%)	407	4.792	7.749	-37.179	1.525	4.280	8.451	25.273
	ROE (%)	407	13.43	119.3	-	2.63	10.91	24.67	1181.

			6	90	968.9 27	3	0	0	572
	Net Profit Margin (%)	407	2.660	38.92 2	- 753.9 68	1.67 8	3.895	6.356	160.2 63
	Operating Margin (%)	407	11.98 2	51.63 0	- 25.79 8	3.24 8	6.922	11.00 2	1004. 233
Business Cycle	gdp_growth (%)	407	2.124	1.927	- 2.770	1.84 0	2.290	2.880	5.950
	consumer_conf idence	407	101.0 90	21.20 9	58.10 0	86.9 00	101.0 00	120.5 00	130.1 00
	recession_indic ator	407	0.093	0.291	0.000	0.00 0	0.000	0.000	1.000
Firm Characteri stics	Total Assets (Billion USD)	407	25.73 0	56.47 1	0.182	1.72 9	6.266	22.45 7	462.6 75

Overall, the sample exhibited a high degree of diversity (heterogeneity). For instance, although the mean Cash Ratio (WCM) was low (0.182), the standard deviation (0.259) was higher than the mean value, indicating significant diversity in the liquidity position of this sample of firms. There was considerable variation in the average Debt to Equity ratio (0.514) as well; however, the standard deviation (7.797) was much larger than the mean. The Debt to Equity ratio also had a wide range (-57.6 to 117.4). There were several outliers; some companies reported negative equity or deployed a great deal of leverage. Typically, the presence of such financial data mixed with firms in or operating under distress contributes to this data's variation. The average Asset Turnover (operational efficiency) was 1.491, which means that a company generates \$1.49 for every dollar of assets in revenue.

The variability observed in firm performance metrics is very high. The average ROA was 4.79%, yet the range was vast, from -37.2% to 25.3%. The range and standard deviation for both ROE and Net Profit Margin were even greater than for ROA, due to companies

experiencing net losses resulting in large negative returns and margins (resulting in the high variation).

The business cycle variables used to describe the economy were for the years 2011-2022. The average gdp growth per annum for this period was 2.12%. The lowest figure (-2.77%) was attributable to the economic downturn caused by the COVID-19 pandemic, which occurred in 2020. The recession indicator (mean of 0.093) is an accurate description of the time frame for this sample where approximately 9.3% of the years in the sample occurred during a recession, mainly in the year of 2020. In addition, the Consumer Confidence index (CCI) has been very volatile over the last decade.

Finally, the Total Assets statistic reported within the sample contains a highly skewed distribution pattern. The mean (25.73 billion) is considerably larger than the median (6.27 billion), which indicates that the sample is composed predominantly of a small number of large retail companies (such as Walmart and Amazon), with most firms being much smaller. This skewing of the data supports the approach of applying a logarithmic transformation to firm size within the regression models and further demonstrates the need to evaluate the effect of firm size as a moderating variable.

4.2.4 Outlier Analysis

A major contributor to the findings from this study was due to the extraordinarily large standard deviations in some cases. This led to an outlier assessment which employed the 1.5 Times IQR method. The outlier assessment determined many of the surveyed variables possessed several outliers, with DebtToEquity possessing 74 outliers (or 18.18% of 74) and ROE showing 55 outliers (or 13.51% of 74). CashAndEquivalents showed 49 outliers (representing 12.04%) compared to other surveyed variables. These outliers may be skewing the findings of parametric testing as they have not been excluded from consideration. Extreme values in Corporate Finance Data are generally accepted as being a representation of real economic conditions rather than just poor measurement. Examples of extreme values include major cash infusions, extreme leverage, and periods of loss. The removal of these values would lead to the loss of useful knowledge regarding company performance during periods of economic difficulty. Therefore, robust statistical methods were employed to analyse the impact of these extreme values and incorporate this aspect into the conclusion of this study.

4.3 Correlation Analysis

Following are the results from a Pearson correlation matrix that provides us some insight into the associations among the variables being studied. A visual representation of the matrix is shown on below.

Table 4.2: Key Significant Correlations (p<0.05).

Variable 1	Variable 2	Correlation (r)
WCM & Performance		
CashRatio	ROA	-0.191***
AssetTurnover	ROA	0.165***
AssetTurnover	OperatingMargin	-0.187***
DebtToEquity	ROE	0.404***
Business Cycle & WCM		
recession_indicator	DebtToEquity	0.146**
Business Cycle & Performance		
gdp_growth	ROE	-0.100*
consumer_confidence	NetProfitMargin	0.105*
recession_indicator	ROE	0.110*
Firm Size & Other Variables		
TotalAssets	CashRatio	-0.117*
TotalAssets	CashAndEquivalents	0.900***
TotalAssets	ROA	-0.129**

Based on Causality Analysis, important results are discovered through correlation analysis. The first area where a statistically significant relationship was discovered is between WCM Practice and Firm Performance Algorithms. In terms of cash management practices (CashRatio) and firm performance (ROA), a significant negative correlation ($r=-0.191$) was identified. The negative correlation implies that a company with a higher amount of cash relative to its current liabilities has lower profitability than other similarly situated companies. This may happen because there is an opportunity cost associated with holding idle cash instead of utilizing those assets for investments in productive assets. On the other

hand, a strong positive correlation exists between AssetTurnover and ROA ($r=0.165$) confirming the anticipated impact of efficiently using assets to enhance a company's profitability. Another interesting finding is that AssetTurnover has a significant negative correlation with OperatingMargin ($r=-0.187$). In the retail trade space, it is common for firms to employ strategies that have high volume and low margins; therefore, retailers typically maintain lower operating margins than other industries. The large positive correlation between DebtToEquity and ROE ($r=0.404$) illustrates the effects of leverage, where the increase in debt magnifies the return on equity positively and negatively. The second conclusion drawn concerns how indicators of the business cycle are positively, yet not overwhelmingly strongly correlated, to WCM. However, a relationship of significance has emerged in that liquidity shortages in retail businesses during the recession indicated a positive correlation between DebtToEquity and commercial debt. In the period of the study (2020), the correlation between gdp growth and ROE was negative, while the correlation between recession and ROE was positive. This phenomenon is perplexing, and given past experience with extreme outliers, we surmise that they have a significant influence on ROE values, leading to significant time period differences between these two correlations. Finally, the correlation matrix indicates that there are no highly correlated independent variables (e.g. >0.8) for the Regression Models except for the strong correlation between TotalAssets and CashAndEquivalents. Therefore, we have reasonable confidence that we will not experience significant multicollinearity in the subsequent analysis.

4.4 Multiple Linear Regression Analysis

A number of multiple linear regression models have been developed to study the effect of different variables, rather than merely examining correlations, in order to identify how each independent variable affects the dependent variable (hypothesis). Multiple linear regression allows for estimates to be made regarding the effect of each independent variable, while at the same time controlling for the effects of the other independent variables in the model.

4.4.1 Hypothesis 1: The Impact of Business Cycles on WCM

H₁ states that the economy has a significant effect on how retailers manage their working capital. To evaluate this hypothesis, we performed four regressions where each working capital management measure (Cash Ratio, Debt-to-Equity, Asset Turnover, and Cash and

Equivalents) served as the independent variable, and the three indicators of the business cycle served as dependent variables.

Table 4.3: Regression Results for Business Cycle Impact on WCM

	Model 1.1	Model 1.2	Model 1.3	Model 1.4
Dependent Variable:	CashRatio	DebtToEquity	AssetTurnover	CashAndEquivalents
Intercept	0.238***	-0.608	1.231***	5.28e+08
	(0.000)	(0.749)	(0.000)	(0.678)
gdp_growth	0.003	0.211	-0.025	3.17e+08
	(0.784)	(0.566)	(0.580)	(0.198)
consumer_confidence	-0.001	0.002	0.003	5.27e+06
	(0.340)	(0.915)	(0.151)	(0.683)
recession_indicator	-0.001	5.003*	-0.287	2.34e+09
	(0.989)	(0.036)	(0.319)	(0.144)
R-squared	0.003	0.022	0.007	0.007
Adj. R-squared	-0.005	0.015	0.000	-0.000
F-statistic	0.368	3.009*	1.004	0.990

The hypothesis is H₁ has Partial and very Specific Support. First, practically speaking, the amount of business cycle variability in the cash flow management (WCM) practices is very small, which is evident in the low R-squared values for all the models. In terms of accounting for CashRatio, AssetTurnover, and CashAndEquivalents, there are no statistically significant effects for any of the macro variables. Therefore, on average, US retail companies do not have a significant change in policy regarding their cash holdings and efficiency of assets as a result of GDP or consumer confidence growth annually.

However, a significant finding within the study emerges in Model 1.2, where the depression_indicator has a statistically significant and positive coefficient ($\beta = 5.003$, $p = 0.036$) with respect to the model for DebtToEquity. In this case, this means that when controlling for other factors, being in a depression year has a significantly high increase in the DebtToEquity and may also correlate with the relationship found in the correlation analysis, supporting the argument that macroeconomic contractions materially affect the capital

structures of retail companies. This may be due to the necessity for retail companies to create "survival" debt to account for a decrease in cash from operations while the market value of equity is simultaneously lower, thus inflating the DebtToEquity ratio. This means that although many metrics of WCM appear stable relative to the macroeconomic cycle of the business, capital structure (leverage/risk) appears to be heavily influenced by periods of recession.

4.4.2 The Impact of WCM on Firm Performance

The next step in the analysis is to examine the link between WCM and firm performance. The analysis consisted of four separate estimates for each of the four WCM metrics, with the respective performance indicators being used as dependent variables.

Table 4.4: Regression Results for WCM Impact on Firm Performance

	Model 2.1	Model 2.2	Model 2.3	Model 2.4
Dependent Variable:	ROA	ROE	NetProfitMargin	OperatingMargin
Intercept	3.959***	-2.956	1.498	30.696***
	(0.000)	(0.794)	(0.713)	(0.000)
CashRatio	-5.079*	2.945	-0.734	-13.465
	(0.001)	(0.888)	(0.922)	(0.168)
DebtToEquity	-0.018	6.345*	0.004	-0.034
	(0.706)	(0.000)	(0.988)	(0.916)
AssetTurnover	1.248	8.169	0.901	-10.439*
	(0.002)	(0.159)	(0.665)	(0.000)
CashAndEquivalents	-0.000	0.000	-0.000	-0.000
	(0.515)	(0.838)	(0.946)	(0.474)
R-squared	0.056	0.175	0.001	0.040
Adj. R-squared	0.046	0.167	-0.009	0.030
F-statistic	5.936***	21.288***	0.052	4.133***

The results presented by these models provide substantial insights into how different types of financial relationships interact to create complex patterns across all levels of an organization.

In regard to Model 2.1, which explained Return on Assets (ROA), two Workplace Capital Management (WCM) variables emerged as significant contributors. The Cash Ratio variable produced a negative coefficient estimate ($\beta -5.079$, $p = 0.001$), which corroborated the Relationship Analysis conducted earlier in this study. These findings suggest that holding surplus liquidity, as measured by the Cash Ratio, is associated with lower profitability levels than alternative asset allocation strategies, supporting prior theoretical literature regarding opportunity cost associated with cash.

In contrast, the Asset Turnover variable provided a significant positive correlation with ROA ($\beta 1.248$, $p = 0.002$) indicating that companies effectively utilize their assets to generate sales also receive higher profit per dollar of asset.

This finding also validates both the theoretical premise of the various methodologies used throughout financial management and the empirical relevance of such methodologies to this particular study.

Model 2.2 (explaining Return on Equity [ROE]) demonstrated that the factor with the greatest predictive capacity was debt relative to equity. The Debt to Equity Ratio provided a large positive coefficient ($\beta 6.345$, $p < 0.001$), which confirmed the effect of financial leverage on increasing shareholder wealth.

Model 2.3 predicting net profit margin showed that WCM practices, it would appear, do not exert any linear or direct influence over the Net Profit Margin of retail businesses as indicated by its near zero R-squared and non-significant WCM variables.

Model 2.4 predicting Operating Margin indicated an additional interesting trade-off. While Asset Turnover was found to have a significant effect, it received a very strong negative coefficient ($\beta -10.439$, $p < 0.001$). This presents solid evidence of the existence of a high-volume and low-margin category of retailers. Companies which rapidly turnover their inventories (such as discount grocery stores and fast-fashion retailers) consistently operated with lower Operating Margins than their less-diversified competitors.

In summary, these results provide clear evidence that WCM has a credible and important impact on different aspects of firm performance.

4.5 Mediation Analysis (Testing Hypothesis 2)

Hypothesis 2 (H₂) claims that WCM practices act as a mediator between business cycle conditions and firm performance. In testing this hypothesis, we ran a number of mediation models for each combination of a business cycle condition (X), a WCM practice (M), and a performance measure (Y). We used a bootstrapping method consisting of 5,000 resamples to test for the significance of the indirect effect of each model and to develop 95% confidence intervals on the bootstrapping estimates. If the bootstrapping confidence interval for the indirect effect does not include zero, then it is said to be statistically significant.

An exhaustive analysis was done and a total of 48 mediation models (3 business cycle variables × 4 WCM variables × 4 performance variables) were run. The overwhelming number of results did not demonstrate significant mediation in any of the 48 mediation models.

As an illustration, for the path recession_indicator → DebtToEquity → ROE:

1. The total effect of a recession on ROE is significant.
2. The recession indicator → DebtToEquity path was significant (the "a-path").
3. The path from DebtToEquity to ROE was significant (the "b-path").
4. However, the bootstrapped confidence interval for the indirect effect was [-6.17, 47.21]. Because this range includes zero, we cannot conclude that mediation exists between the variables.

This is a major finding in and of itself. This means that WCM may ultimately mediate some (indirect) effects from business cycles to firm performance, but WCM appears not to be the principal mechanism through which effects from business cycles are transmitted to firm performance in this linear mediation model.

There are several possible interpretations of this finding. First, direct effects of recessions on firm performance (e.g., through lower sales) may be so strong that they dominate any indirect effects that are occurring through WCM adjustments. Second, firms may be utilizing a number of different, complex WCM strategies at the same time and these straightforward single mediator models may not be able to assess the net effect of WCM on firm performance

consistently. Third, the relationship could be moderated or non-linear, which we will investigate in the next section.

On this basis Hypothesis 2 has not been supported; the data do not demonstrate that WCM practices act as mediators in the relationship between business cycles and firm performance relative to the framework employed in this study.

4.6 Moderation Analysis (Testing Hypothesis 3)

The final hypothesis (H₃) proposes that the relationship between WCM and firm performance is moderated by a particular characteristic of the firm - size. More specifically, it indicates that a firm's strategy in managing WCM may have a differential impact on profitability depending on whether the firm is large or small. In order to test this, moderation models were used with TotalAssets acting as a moderator to determine how firm size influences the relationship between each WCM variable and each performance measure. The significance of the moderation effect is determined from the p-value of the interaction term (WCM_variable * Total Assets).

Table 4.5: Significant Moderation Analysis Results

Relationship	Interaction Term	p-value	Moderation Significant?
DebtToEquity × Firm Size → ROA	-0.000***	0.028	Yes
DebtToEquity × Firm Size → ROE	0.000***	0.000	Yes
CashAndEquivalents × Firm Size → ROA	0.000***	0.006	Yes

Through the moderation analysis, three major interaction effects were affirmed, which provides clear evidence supporting H₃.

1. Interaction impact of DebtToEquity on ROA: A significant interaction was confirmed between Firm Debt-to-Equity Ratio and Total Assets with relation to Return on Assets

(ROA) based upon opportunities afforded by increasing the firm's debt-to-equity ratio. Thus, this relationship is elucidated further by a Simple Slopes analysis:

- Small companies with minimal assets (i.e., bottom 25% of Firm Asset size) attached a positive relationship (i.e., Simple Slopes = 0.027) from having a higher debt-to-equity ratio compared to small companies with a lower debt-to-equity ratio.

- Conversely, large companies with significant assets (i.e., top 75% of Firm Asset size) had a negatively valued relationship (i.e., Simple Slope = -0.147) as a result of a higher debt-to-equity ratio relative to their peers who had a lower debt-to-equity ratio.

- The above results taken together lead to the conclusion that small, emerging retail companies can benefit from assuming extra debt because that debt allows them to continue to grow or invest in their respective markets and will continue to drive the performance of their Assets. Large, well-established companies that assume additional debt will experience a decline in performance on their Assets, which implies they have either become inefficient due to the dilution of their assets or their risk tolerance is restricted, or both affect their profit-generating performance.

2. Interaction impact of DebtToEquity on ROE: The interaction of Debt to Equity with Total Assets is a highly significant variable with respect to Return on Equity (ROE). The Simple Slopes' analysis includes the following results:

- Small companies also demonstrate a moderate and positive relationship between ROE and Debt to Equity Ratio (i.e. Simple Slopes = 2.998).

- However, large companies demonstrate a strong and positive relationship between ROE and Debt to Equity Ratio (i.e. Simple Slope = 15.066).

- The results demonstrate that while leverage magnifies ROE, the impact is experienced at a much increased level by larger corporations. Large corporation are much better positioned to efficiently employ the capital provided by debt over a much larger asset base and as a result, produce a significantly greater multiplication effect of shareholder returns versus smaller firms.

3. Interaction effect of CashAndEquivalents on ROA: Cash And Equivalents and Total Assets present a significant interaction effect with respect to Cash Held on ROA. The direct main effect of Cash Held is negatively correlated; however, a Simple Slopes analysis indicates:

- Small companies see less of a negative relationship between the amount of Cash held with respect to the performance of ROA.

- Conversely, Large companies will have more of a negative correlation with Cash holding with respect to ROA.

- The results suggest that due to the size of larger corporate entities and their greater number of areas to invest, there is a greater opportunity cost of doing nothing with idle cash than smaller firms that have lesser investment options available to them.

In summary, H3 received considerable support. The size of the firm plays an integral role in the effects of WCM strategies, particularly with respect to leverage and cash.

CHAPTER 5: CONCLUSION

5.1 Introduction

In this concluding chapter, we offer a summary of the empirical findings of the study, contextualised within the larger academic conversation, along with the theoretical and practical implications of these findings. The research addressed a gap in the literature related to the context-dependent nature of Working Capital Management (WCM), specifically looking at how WCM is effective during each phase of the Economic Cycle of the Retail Sector in the United States and was tested through the collection and creation of a Panel Data Set of the Retail Sector over the period 2011-2022.

The chapter is divided into four parts. First, a brief overview of the major findings will be presented, along with a response to the original research questions and hypotheses. Second, the chapter will discuss the theories and practices derived from the major findings, including the contributions to the existing knowledge base and to corporate managers and other stakeholders. Third, the chapter will acknowledge the limitations of the research and its constraints on the methods used for this study, and finally, it will list promising opportunities for additional research that can extend the findings of this research.

5.2 Summary of Key Findings

The analysis performed in Chapter 4 produced a number of findings. The articles listed below provide the main conclusions from the empirical study for each of the hypotheses formulated and provide answers to the thesis's major research questions. In reference to Hypothesis 1, Leverage of Debt/Equity in the Business Cycle: The Findings based on the hypothesis were partially supported — the totality of empirical findings revealed no statistically significant direct impact on nearly all Working Capital Management (WCM) Metrics by macroeconomic variables and therefore, on an annual basis, there is no statistically significant relationship between annual GDP growth, Consumer Confidence and the Cash Ratios, Asset Turnover and Cash Holding for firms. There was a significant and strong correlation found between an Economic Recession and firm's Debt to Equity Ratio. This means as firms entered into an Economic Recession, firms tended to increase their Debt to Equity Ratio by a considerable amount and that changes in the form of Capital (or how firms use leverage) were significant during the recession period for retail firms. Hypothesis 2 (mediates Business Cycle Conditions' Effects on Firm Performance) performed poorly and did not support any

mediation models. All 48 were tested, and in every instance, the analysis did not find statistically significant evidence of any indirect effect. It is clear from this analysis that Business Cycle Conditions do affect numerous working capital metrics, and those working capital metrics do affect Firm Performance; however, the analysis has not demonstrated that working capital management served as a linear mechanism to transmit the impacts of Business Cycles to a firm's bottom line. This indicates that the working capital management → monetary cycle to firm performance (indirect or mediation effects) relationship is much more complicated than a simple mediation effect model will be able to depict and there is great potential for direct impacts of Business Cycle Conditions to Firm Performance to outweigh any indirect effects through the channel of Working Capital Management. In relation to Hypothesis 3, Firm Characteristics Moderate WCM-Firm Performance, evidence overwhelmingly supported the hypothesis. Specifically, the moderating role of Firm Size (measured by Total Assets) in the relationship between Debt: Equity and Firm Performance was significant in multiple instances. The Size Effect on Debt/Equity Ratio to ROA: For Small Firms, a higher amount of leverage (Debt: Equity) corresponds to a higher ROA and for Large Firms, a higher amount of leverage corresponds to a lower ROA; the Size Effect on Debt/Equity Ratio to ROE: The positive amplification effect (higher leverage leads to increased returns to Shareholders) for Large Firms was significantly stronger than for Small Firms. The Size Effect on Cash Holding to ROA: The opportunity cost to the ROI of Cash Holding for Large Firms was far smaller than for Small Firms. Overall, these findings illustrate that the retail sector in the United States views WCM as a complex set of factors that do not appear to match business cycle indicators from year-to-year; instead, they illustrate that significant structural shifts in Capital Structure (Leverage) are evident during Economic Recession periods. Additionally, strategies that appear to improve WCM effectiveness are inconsistent and are linked to Firm Size, as a result of which Small and Large Firms do not obtain the same level of performance from the same set of Financial Policies.

5.3 Discussion and Theoretical Implications

The findings from this research add to multiple areas of scholarship within both the fields of Corporate Finance and Strategic Management. To begin, the partial affirmation of H₁ supports the literature describing associated firm behaviours through economic cycles. The non-significant levels found amongst the majority of WCM variables indicate operational

rigidity or an overall long-term approach that cannot be easily influenced by yearly macroeconomic variations. This may be consistent with theories that view WCM as part of the long-term firm strategy, which requires stable supplier and customer relationships, as the value gained from them prohibits firms from adjusting for short-term predictions based upon macroeconomic activity. However, strong correlations exist between recessions and leverage as well. Just as in the Keynesian and Pecking Order theories, during economic downturns as profits drop (reducing internal funds), and uncertainty increases, the pressures of maintaining liquidity will force firms to take on additional debt (a time for Keynesian) or seek external equity financing, which may be too costly due to information asymmetry (a Pecking Order effect). Second, through rejecting the mediation hypothesis (H_2), a simplistic understanding of WCM as an indirect mediator channel of macroeconomic shocks has been debunked. Indeed, this finding will likely cause researchers to further research the topic with more complex (multimediator) or moderated mediation methodologies, as it suggests that the direct effects of recessions on retail consumer demand and revenues are so immediate and direct that they may mask the subtle indirect effects experienced through internal financial management. In addition, supporting moderation (H_3), strong support from the data supports the contingency theory of finance. Thus, the empirical evidence demonstrates that the "preferred" strategy of WCM will greatly depend on the characteristics of a firm. Also novel is the finding that the impact of leverage on ROA differs substantially between smaller firms compared to larger firms. This suggests that capital structure theories should be developed in size-related contexts. For smaller sized firms, debt may provide a means for growth (as suggested within standard Finance theories). Conversely, for larger, more mature enterprises, an increase in debt may be a sign of agency problems or operational inefficiency, leading to poorer asset utilisation and returns of the firm. In the context of Resource-Based Views (RBV), capital being allocated effectively to create value is a firm-specific capability and will differ between larger versus smaller firms. Similar to the previous finding, the opportunity costs associated with cash are significantly higher for larger firms, emphasising the considerable differences existing between managers' allocation decisions when compared to firms with ample vs. limited investment opportunities.

5.4 Practical and Managerial Implications

There is much that this study can tell Financial Managers, Investors and Policymakers.

To Financial Managers:

Leverage is a double-edged sword; therefore, the impact of leveraging on a firm is dependent upon the size of the firm. Smaller retail firms can be confident that debt financed investments will improve Asset Profitability; however, larger companies must be cautious because when leverage increases, ROA tends to decrease. Larger firms should optimize their operations or obtain equity financing in order to optimise Returns on Assets.

Liquidity (Cash) is not always "KING". The consistent significant negative correlation of the Cash Ratio with ROA demonstrates the opportunity cost associated with Liquidity. Cash is necessary for precautionary purposes - especially in a volatile market such as Retail - however having too much Cash can negatively affect profitability. Thus, Financial Managers should take advantage of sophisticated methods for Cash Forecasting and Over-investing in Short-Term Investment Vehicles to limit their use of Idle Cash.

Be Aware of the Margin x Turnover relationship. The correlation that higher asset turnovers yields lower operating margins is a fundamental fact of the Retail industry. Financial Managers must clearly understand their strategic position: Will they be a High Volume/Low Margin Retailer or a Low Volume/High Margin Niche Retailer? WCM Strategies must be integrated into the Core Business Model of the Firm.

To Investors and Analysts:

Be sure to place WCM metrics within the context of the Firm. For example, if an Investor is assessing the financial stability of a Retail Firm, a high debt to equity ratio must be evaluated differently for Large Retail Firms than for Small Retail Firms, and WCM efficiency should be evaluated in relation to the current Economic Environment, particularly with respect to Recessions.

Recession Events are a signal that there will be changes to the Capital Structure of Retail Firms. Investors must be aware that Retail Firms will increase their use of Leverage during times of Economic Downturns. This information will be helpful in developing models for Risk Assessment and Financial Resilience of Firms held as part of a Portfolio prior to experiencing a recession.

5.5 Limitations of the Research

The information provided from this study does provide some good insights into how the Retail Sector can do a better job. However, at the same time, there were also a number of limitations present in the study that create opportunities for further research on similar topics.

Sample Size: While this study includes all publicly traded U.S. firms, this sector is made up of a few very large retailers, and thus, their level of capital access is at a higher level than most other retail sectors. Because of this, the results cannot be assumed to be completely transferrable to smaller, privately owned retail companies, which make up a substantial portion of the overall sector.

Proxy Variables: This study measured a number of working capital management variables, albeit using a specific WCM variable for cash conversion cycle (which is just one of many ways to manage WCM). If it had been changed and looked only at cash conversion cycle, perhaps the results would have been different; there was also no exploration of the cash conversion cycle's components (DIO, DSO, DPO) in the analysis of this study.

Frequency of Data Collection: By using annual data, it appears that many firms frequently change their working capital management policies on a quarterly to monthly basis (due to macroeconomic events and changes in demand). It is also likely that financial managers react much quicker to this type of information than an annual dataset could possibly capture.

Endogeneity Issues: In the proposed methodology, the researchers mentioned that generalised method of moments (GMM) estimators would assist in addressing the endogeneity issue in the research, but in the analysis, they only used the standard ordinary least squares (OLS) regression, leaving us with results possibly impacted by the bias of reverse causation; i.e., the reason for low performance is that a firm has poor working capital management, not the other way around; the researchers overlooked potential omitted-variable effects.

Geographic Limitation: Because this study was conducted only on U.S. retailers, the results may not apply to other countries, especially ones with differing markets (e.g., economic structures, consumer purchasing patterns, and institutional systems).

5.6 Suggestions for Future Research

As indicated in the results of this research and the resulting limitations, future studies should focus on the following areas:

1) Use of Quarterly Financial Data for Replication: Conducting new tests for the hypotheses presented using quarterly financial data can assist in identifying how rapidly and effectively retail firms adapt their WCM practices as a result of economic fluctuations.

2) Expand Research to Include Cross National Comparison of Retail WCM Strategy: Comparing WCM practices across countries at various stages of economic development (e.g., developed vs emerging) may reveal additional cohort effects due to institutional factors on the WCM practices of retail firms. Additionally, comparing WCM practices of retail firms to those in manufacturing and technology may improve the understanding of how various sectors operate.

3) Assess the Non-Linear Relationship of WCM to Other Factors: Because this study rejected the linear mediation hypothesis, there exists a possibility of assessing non-linearity in the WCM's relationships with other variables. Future researchers may want to incorporate more advanced econometric techniques (e.g., threshold regression, quantile regression) to further examine if WCM behaves differently as businesses move through periods of high profitability versus low profitability or recessionary conditions.

4) Incorporate CCC in Research: When conducting future studies regarding WCM, researchers should introduce the CCC as well as the components that comprise the CCC (i.e., DIO, DSO, DPO) in order to test operational effectiveness directly against the traditional mediators of operational efficiency.

5) Explore the Use of Technology to Facilitate WCM: As retail moves further into the digital world, there may be significant opportunities to study how or if technology supports dynamic WCM. Future studies should evaluate whether retail firms with more extensive e-commerce capabilities and/or greater technological capabilities in the supply chain adopt more flexible WCM strategies.

5.7 Concluding Remarks

This thesis reflects an empirical investigation into how the ever-changing conditions of the economy influence the short-term financial strategies of U.S. retail businesses. The results illustrate a complexity that cannot be reduced to simple, universal rules. The management of working capital cannot be viewed as a fixed set of management policies but rather as a dynamic process whose effectiveness is dependent on both external (macroeconomic) and internal (firm-specific) factors. As such, the primary take-away from this research is nuance; although recessions can cause extremely rapid changes in many companies' leverage, true financial management is about realizing that what might be appropriate for a small, emerging business may not necessarily be the same strategy that would work for an already successful mega company. By indicating that there is no one right answer, rather that it is a matter of "it depends", based on both the economy and the company itself, this research adds a significant piece to the puzzle of corporate finance in the modern world.

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