

**THE EFFECT OF BUSINESS STRATEGY ON THE RELATIONSHIP
BETWEEN WORKING CAPITAL MANAGEMENT AND PROFITABILITY
IN THE UK MARKET**

by

DIMITRIOS KORAKIS

**A Thesis submitted to the Secretariat of the MSc in Financial Management of the
Athens University of Economics and Business, in partial fulfillment of the
Requirements for the Master's Degree**

Athens

16/12/2024





We approve the Thesis of

[FULL NAME]

.....

[NAME OF ACADEMIC SUPERVISOR]

[SIGNATURE]

.....

.....

[NAME OF CO EXAMINER]

[SIGNATURE]

.....

.....

[NAME OF CO EXAMINER]

[SIGNATURE]

.....

.....





[DATE]

CERTIFICATION OF THESIS PREPARATION

“I hereby declare that this particular thesis has been written by me, in order to obtain the Postgraduate Degree in Financial Management, and has not been submitted to or approved by any other postgraduate or undergraduate program in Greece or abroad. This thesis presents my personal views on the subject. All the sources I have used for the preparation of this particular thesis are mentioned explicitly with references being made either to their authors, or to the URL’s (if found on the internet).”

[STUDENT’S FULL NAME]

.....

[SIGNATURE]

.....





Table of Contents

1. Introduction.....	1
2. Literature Review.....	3
2.1 Business Strategy	3
2.1.2 Strategic Typologies.....	3
2.1.3 Miles and Snow’s Strategic Typology	4
2.1.4 Porter’s Strategic Typology	7
2.1.5 Strategic Typologies and Organizational Adaptation.....	8
2.2 Working Capital Management	9
2.2.1 Working Capital Management: Definitions and Components	9
2.2.2 Effects of Working Capital Management on Firm Profitability.....	10
2.2.3 Working Capital Management Strategies: Aggressive versus Conservative Approaches	12
2.2.4 Meta-Analysis of the Relationship Between WCM and Profitability	13
3. Motivation and Hypothesis Development	15
4. Methodology	19
4.1 Data.....	19
4.2 Econometric Methods	19
5. Empirical Results	23
5.1 Descriptive Statistics.....	23
5.2 Regression Results	31
6. Conclusions.....	39
References.....	45





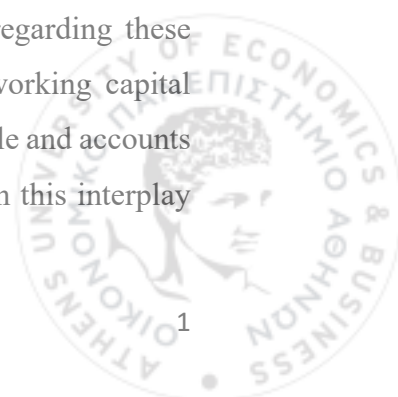
1. Introduction

This thesis examined the moderating effects of business strategy on the relationship between working capital management and profitability on the United Kingdom market. Working capital management is a significant part of a firm's financial management as it is responsible for the short-term allocation of resources in order for liquidity and profitability to be insured and balanced effectively (Knauer & Wöhrmann, 2013). This study uses the strategic typologies developed by Miles and Snow (1978) that classify firms into prospectors and defenders in order to examine the impact business strategy has on the effectiveness and efficiency with which working capital management enhances profitability. The understanding of the dynamics and interconnectedness between strategic management and financial management, the significance of which has been highlighted by prior research (Ojra et al., 2021), is the main goal of this thesis. It researches whether the different strategic orientations a firm can employ will enhance or hurt the effectiveness of working capital management in driving profits.

Following previous research and literature, this thesis hypothesizes that the strategic choices of a firm will have a significant impact on the efficiency of working capital management policies. Prospectors who are known for a very strong emphasis on innovative behavior, exploratory practices and high levels of adaptation into dynamic circumstances are expected to show a weaker relationship between working capital management and profitability because of their risk-tolerant behavior and complex and decentralized operating structures. These characteristics are expected to hinder the effectiveness of working capital management practices.

In contrast, defenders who are known for their operational efficiency and stability as well as their strong focus on cost management are expected to leverage a stronger relationship between working capital management and profitability because of their highly structured and efficient operations, their minimal inventory levels and the strong business relationships they forge. These characteristics are expected to enhance the effectiveness of working capital management practices.

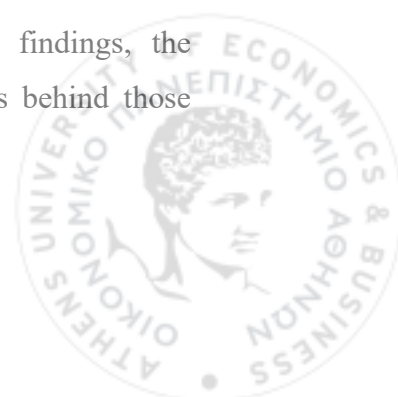
The empirical results of this study provide significant observations regarding these expectations. While significant relationships are observed between working capital management components (inventory holding periods, accounts receivable and accounts payable) and profitability the impact that strategic orientations have on this interplay



was more moderate than expected. The results of the analysis showed that both the prospector and the defender strategy type have no significant impact on the efficiency of working capital management policies on the end profitability of firms, suggesting that strategic orientations are irrelevant to the enhancement of operational efficiency and its outcome to profitability. Moreover, the results showed the lack of a non-linear relationship between working capital management and profitability, opposing prior studies that supported that an optimal level of working capital management can be reached after which the returns of the investment are diminishing.

The results of this thesis' analysis highlight the significance of working capital management policies in enhancing a firm's profitability even if the moderating effect of the different strategic types is less pronounced than expected. These results suggest that while working capital management practices should be coordinated with the general business strategy in order for higher efficiency in operations to be achieved, external factors and industry idiosyncrasies possibly exert a greater influence in the relationship between working capital management and profitability.

The following contents of this thesis are structured as presented below. Chapter 2 provides a detailed review of prior research and literature on business strategy and working capital management. Theoretical frameworks and empirical studies are explored in order for a solid foundation to be formed for the conduction of this thesis, with the main focus being on the strategic typologies established by Porter and Miles and Snow and their connection to working capital management. Chapter 3 establishes the motivation for this study and the development of hypotheses based on which the potential impact of strategic orientation on working capital management's relationship to profitability will be tested. Chapter 4 discusses the methodology, including the research design, data collection process and econometric methods used to test the relationship between working capital management, probability and strategic orientation. It also introduces the variables and models used in the thesis. Chapter 5 presents the empirical results, including the descriptive statistics and the regression analyses and provides an in-depth interpretation and discussion centered around them. Lastly, Chapter 6 concludes the thesis by highlighting the main findings, the confirmation or rejection of the hypotheses and the possible reasons behind those confirmations or rejections.



2. Literature Review

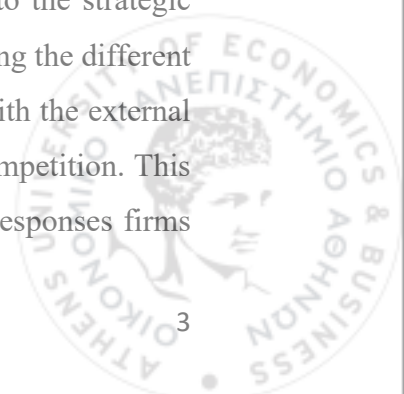
2.1 Business Strategy

One of the most significant concepts in strategic management is business strategy as it is the driver behind how firms decide and shape their long-term goals, organize their resources, and create an architecture to achieve a sustainable competitive advantage (Farida & Setiawan, 2022). The core of business strategy is its ability to navigate a business through offensive or defensive actions inside the market they exist in and to build a dependable position in the industry in order to be able to manage the market's forces which consist of its potential and existing competitors, its suppliers, its customers and the products that are being developed (Porter, 1980). A successful business strategy leads to effective navigation and adjustment of a firm's direction in competitive environments, the identification of potential external threats and the exploitation of external opportunities (Porter, 1980). Strategy, as a result, provides the framework responsible for all the major decisions a firm will make about its market positioning, its decision-making processes and its operational priorities.

Different schools of thought have been developed as a result of the study in the field of business strategy. Their differences lie in their proposed frameworks to be used in order for a firm to be categorized based on its strategic behavior. The critical lens through which the formulation and implementation of strategy is understood and categorized are called strategic typologies. Strategic typologies offer insight on the operational performance, the behavioral response to internal and external factors, and the organizational structure of a firm by classifying them in strategic categories. This classification process is integral in understanding the vast diversity in firm behavior regarding matters of competitiveness, growth and change at an organizational level (Miles et al., 1978).

2.1.2 Strategic Typologies

As mentioned above, strategic typologies in essence serve as frameworks aiming to provide distinct categories for firms to be designated into according to the strategic approach they are using. This designation procedure helps in streamlining the different ways firms align their internal capabilities (resources and processes) with the external market condition (demand) in their pursuit for advantage over their competition. This categorization of firms based on behavior sheds light into the varied responses firms



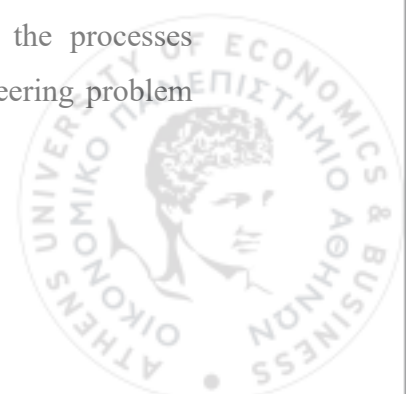
provide in order to deliver on matters regarding competition, adaptation and development (Miles et al., 1978).

Strategic typologies are an important component for both academic study and practical applications in the field of strategic management. Typologies that made possible the generalization of firms' approaches to competition and adaptation were the result of researchers trying to find identification patterns of organizational behavior. These typologies are the instruments through which complex strategies are simplified into digestible models that clarify the essence of the mechanisms driving firm performance.

Two of the most well-established strategic typologies in the literature of strategic management are those of Miles and Snow's (1978) organizational strategies and Porter's (1980) competitive strategies. Both of these architectures offer different perspectives on the suggested navigation of competitive environments by firms, but have the common goal of substantiating the ways a successful alignment of internal processes with external opportunities by firms results in sustainable advantages and success.

2.1.3 Miles and Snow's Strategic Typology

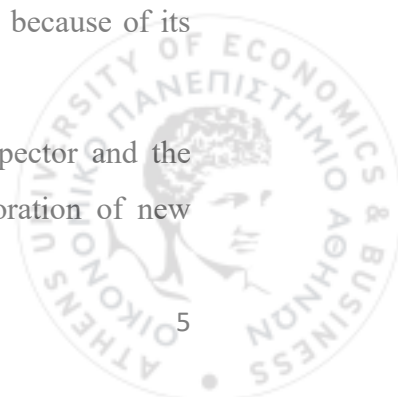
The strategic typology of Miles and Snow (1978) remains to this day one of the architectures that have exerted significant influence in the business strategy field of study. Four specific types of strategies were identified, by the research of Miles and Snow (1978), with high probability of adoption by firms. These strategies were named: prospector, defender, analyzer and reactor. Each of those types of strategies have a different way of approaching and responding to the three fundamental problems of the adaptive cycle. The adaptive cycle is a framework that centers around the different ways firms manage change in order to address their three fundamental problems, the entrepreneurial problem, the engineering problem and the administrative problem (Miles et al., 1978). The entrepreneurial problem focuses on the definition of the product and market domain the firm will target (Miles et al., 1978). The engineering problem centers around developing a system of efficient operations that can service the defined product-market domain (Miles et al., 1978). Lastly, the administrative problem revolves around the stabilization and the uncertainty reduction of the processes produced by the firm's response to the entrepreneurial and the engineering problem (Miles et al., 1978).



The classification of prospector refers to firms of innovative and flexible nature that prioritize exploring new markets (Miles et al., 1978). These firms target growth through developing new products and services and taking positions faster than the competition in emerging markets. They are defined by a risk tolerant behavior and generally perform better than their competition in dynamic and uncertain conditions because they can pursue opportunities that others will not (Slater, Olson and Hult, 2006). Their entrepreneurial problem is defined as the process of the identification and development of new product and market opportunities through environmental scanning and tracking market developments. Their engineering problem lies in being able to maintain the technological flexibility needed to be able to develop evolving products and target evolving markets and their administrative challenge is to be able to facilitate and manage its dynamic and decentralized operations in order to support the flexibility needed for their strategic activities. While there is a high probability of significant and quick growth, their operations may become inefficient because of all the different markets and products they need to focus on at any specific time (Miles et al., 1978).

Defenders depend on stability, in contrast to prospectors, and focus on protecting their narrowly defined market section by efficiently servicing its needs (Miles et al., 1978). Their priorities lie in creating economies of scale thereby minimizing and controlling their costs and improving their processes. Defenders typically have a hierarchical structure with an emphasis on risk averse decisions, control and stability in order to achieve the greatest possible operational efficiency (Miles et al., 1978). The entrepreneurial problem for defenders revolves around the goal of securing and maintaining their market position. Their main goal of stability is achieved through the definition of the niche market they will service, the production of a limited number of products exclusively tailored to address that market and prevention of new entrants. Their engineering problem is addressed by developing an efficient production and distribution system for their niche market through significant resource allocation. Finally, their administrative problem is addressed by aiming at efficiency through strict structural control which is a very effective behavior in stable industries but leaves the firm incapable to react and adapt effectively to major market changes because of its highly specialized processes (Miles et al., 1978).

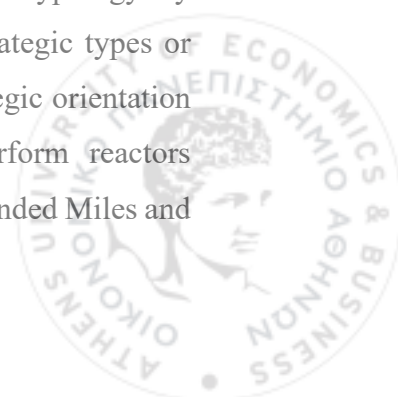
Analyzers are an amalgam, combining elements from both the prospector and the defender strategy (Miles et al., 1978). These firms pursue the exploration of new



markets through an innovative behavior while at the same time want to maintain their already established market share and products. The efficient balance between these two pursuits is their entrepreneurial challenge. Their engineering problem is to achieve a balance between the demands of technological stability and flexibility by the creation of a dual technological core that's consisting of a stable technology component and a flexible technology component. Their administrative problem is to be able to manage both their stable and dynamic operations by differentiating their organizational structures and processes. This holistic approach allows the analyzers to be able to withstand the risk associated with the exploration of and innovation in new markets through the stability provided to them by maintaining their established activities (Miles et al., 1978). While this hybrid strategic type has a high probability of adapting successfully in a new uncertain environment, their operations depend on an extremely complex structure in order to be able to support efficiently both high levels of innovation and stability, making the practical execution of this strategy challenging to execute correctly and susceptible to ineffectiveness (Doty, Glick, & Huber, 1993).

Reactors do not resemble any of the previous three strategic types as they have no consistent strategy and are more likely to respond to external environmental changes and developments reactively (Miles et al., 1978). Their responses are characterized by inconsistency and instability because of their lack of a reliable response strategy. Firms that belong to this strategic type are characterized by uneven performance as they fail to clearly align their internal processes and strengths with the external opportunities and market gaps. Because of the aforementioned limitations, reactors often suffer in regards to their competition because of their difficulty to adjust to the market developments effectively and timely. Because of the high risk of failure this strategic behavior entails, reactors eventually converse into a more stable strategy (Prospector, Defender, Analyzer) to survive (Miles et al., 1978).

The strategic typology constructed by Miles and Snow has been used in a wide variety of studies researching the subjects of strategy and organizational behavior. Conant, Mokwa and Varadarajan (1990) provided empirical support for the typology by analyzing how organizational performance is affected by different strategic types or behaviors. The results showed that firms with adoption of a clear strategic orientation (i.e., prospector, defender, analyzer) are more probable to outperform reactors financially and in market performance. Similarly, Hambrick (1983) extended Miles and



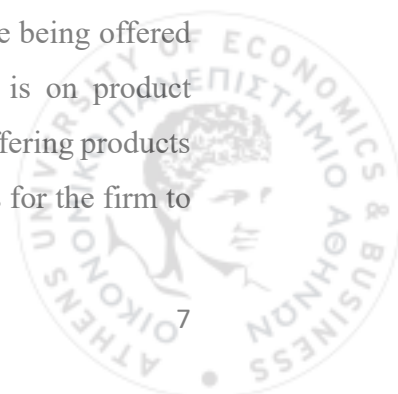
Snow's strategic types by analyzing the performance tendencies of Defenders and Prospectors in various environments and exploring their functional attributes. His results showed that the use of different strategic types influences not only the internal organizational structure of the firm but also, its ability to adapt to external factors and environmental changes. More specifically, his results supported that the performance of Defenders and Prospectors varies based on the environmental conditions of the market they are in. Defenders were consistently more efficient regarding profitability and cash flow while Prospectors gained market share only in innovative industries.

2.1.4 Porter's Strategic Typology

Another strategic typology that has greatly contributed to the study of the strategic management field is Porter's (1980) competitive strategy framework. Three types of strategies can be pursued by firms in order for competitive advantage to be achieved according to Porter. These three business strategies are cost leadership, differentiation and focus and represent three different paths a firm can engage in its pursuit for value creation and competitive advantage within a market.

When an overall cost leadership strategy is pursued the aim of the firm is to make itself the producer with the lowest cost possible in its respective industry. The main ways to achieve such a position is through cost-efficient production processes, very high operating expenses control and the development of economies of scale (Porter, 1980). The main goal of firms using this strategy is to beat the competition in regards to the selling price of their products and to develop a wide market position through standardized production. Cost minimization is the main focus and as a result the firms main investments are in the sectors of process optimization and improvement, operational efficiency, and technology (Grand, 2010). The cost leadership approach strongly correlates with Miles and Snow's defender strategic type as both strategies are characterized by low risk and use operational efficiency and high cost control in order to achieve an advantage over their competition (Segev, 1989).

The differentiation strategy approach is based on offering products and services that are perceived as being of higher value and unique nature compared to those being offered by the competition (Porter, 1980). The main focus of this strategy is on product innovation, building a strong brand, superior service of customers and offering products of high quality. The goal that needs to be achieved by these measures is for the firm to



be able to convince its customer base that a premium price for its products is warranted, and as a result achieve higher profit margins (Grand, 2010). This strategy shares a lot of similarities with the prospector strategic type as both put emphasis on being risk-tolerant, exploring emerging markets and constant innovation (Segev, 1989).

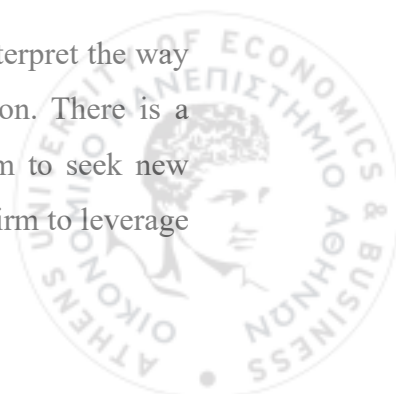
The focus strategic approach centers around targeting a specific market sub-sector and focusing the firm's efforts on providing products or services specifically tailored to servicing the unique demand of said market sub-sector. The focus strategy can be pursued by firms as a base for either cost leadership or differentiation according to the wider strategic scope the firm has set (Porter, 1980). The main advantage this strategy provides is that firms can target and serve niche markets more efficiently than the competition due to the narrow market scope they target.

Porter's framework has been influential in shaping the present-day competitive strategy landscape. Porter (1985) emphasized that failure by firms to adopt one particular strategy of the three will result in them being "stuck in the middle" and missing a clear competitive advantage. This will make them susceptible to be outperformed by competitors with an aligned and clear strategic focus.

2.1.5 Strategic Typologies and Organizational Adaptation

Firms' ability to respond efficiently to external environment changes is greatly affected by the specific strategic typology they have decided to adopt. The balance and the trade-offs between risk and risk-aversion, innovation, stability, efficiency and flexibility vary vastly depending on the strategic type that is chosen. For example, dynamic environments are ideal for firms using the prospector strategic type because of its heavy emphasis in flexibility and innovation, though due to the wide market position they are pursuing and the need for frequent product changes they are susceptible to operational inefficiencies (Miles et al., 1978). On the other hand, firms using the defender strategic type thrive in stable markets as their main focus is controlling cost and achieving high efficiency in their operations while their weaknesses lie in efficient adaptation to significant market condition changes (Miles et al., 1978).

One of the main advantages of strategic typologies is their ability to interpret the way firms find balance between their need for exploration and exploitation. There is a fundamental tension between exploration, meaning the need of a firm to seek new knowledge and opportunities, and exploitation, meaning the need of a firm to leverage



its existing knowledge and capabilities (March, 1991). Prospectors rely heavily on the exploration side of the equation as evidenced by their heavy reliance on innovation while defenders rely heavily on exploitation due to their strategic behavior being centered around efficiency. Analyzers try to maintain their existing momentum in already established markets while also exploring emerging opportunities, thereby balancing these competing demands (Miles et al., 1978).

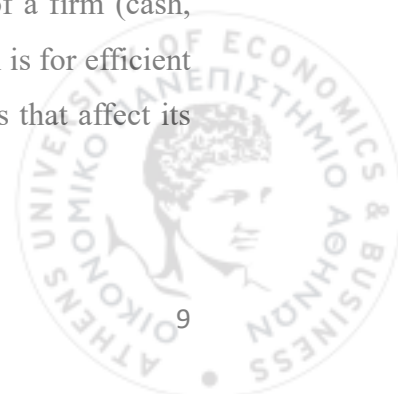
A firm's structural and managerial characteristics also play an important role in its ability to effectively and efficiently adapt to external changes. The decentralized structure commonly used by firms adopting a prospector strategy greatly supports and matches their aim for innovation and flexibility (Miles et al., 1978). In comparison, the centralized structure and formalized decision-making processes often used by firms engaging in a defender strategy greatly reinforce the control and efficiency they pursue (Miles et al., 1978). Because of the dual pursuit of analyzers, a more complex structure capable of balancing both innovation and efficiency is needed and as a result the complexities of said structure translate into a more challenging management procedure (Doty, Glick, & Huber, 1993).

2.2 Working Capital Management

One of the fundamental elements of financial management is working capital management (WCM) which refers to the short-term management of assets and liabilities in order for a firm to effectively and efficiently meet its short-term obligations and maximize its profitability. A firm's efficient operations, its liquidity and also its profitability are greatly affected by how optimal its working capital management is. Knauer and Wöhrmann (2013) emphasized that liquidity and profitability are greatly affected by how well-managed the working capital system of a firm is, thereby highlighting the relationship between an efficient WCM system and overall firm performance.

2.2.1 Working Capital Management: Definitions and Components

WCM centers around efficient management of the short-term assets of a firm (cash, receivables, inventory) and its short-term liabilities (payables). The aim is for efficient cash flow for the firm's operations to be ensured without compromises that affect its



profitability. The two main strategies for WCM are the aggressive and the conservative approaches.

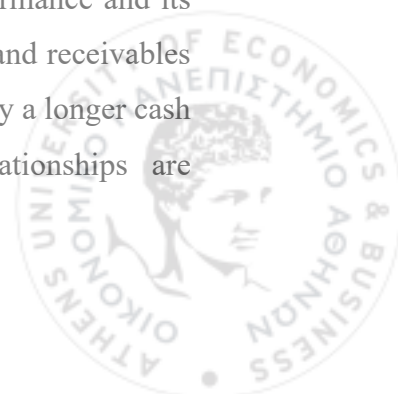
An aggressive WCM strategy puts emphasis on the reduction of cash holdings, inventory and receivables so as to achieve working capital investment minimization. This approach has the main goal of increasing profitability with the sacrifice of increased operational risks. In comparison, a conservative WCM strategy has as a main goal the maintenance of liquidity and stability. This is achieved by high investments in working capital at the cost of higher holding costs and as a result a potential decline in profitability (Nazir & Afza, 2009).

The key components of WCM include inventory management, receivables management and cash management. For efficient inventory management to be achieved, customer demands should be met by maintaining optimal levels of stock without a firm having to face excessive holding costs. Efficient receivables management should balance extended credit to customers as a sales driver with the risk of incurring debts and facing delayed payments. Efficient payables management should balance the maintenance of good relationships with suppliers with the management of their payment terms in order to ensure extended cash availability. Lastly, efficient cash management ensures immediate operational needs are satisfied by the availability of cash while surpluses are invested efficiently.

2.2.2 Effects of Working Capital Management on Firm Profitability

The correlation and interconnectedness between WCM and profitability has been covered by a large number of studies. A number of studies have supported that there is a positive correlation between the two. In contrast, other studies have shown, especially in firms using aggressive WCM approaches, a negative relationship between WCM and overall profitability.

The positive relationship between WCM and profitability has been supported by studies proving that the outcome of the relationship between these two figures is not straightforward. One of the most crucial components to a firm's performance and its enhancement is the cash conversion cycle (time it takes for inventory and receivables to be converted into cash) optimization. Profitability can be enhanced by a longer cash conversion cycle as stock shortages are avoided, customer relationships are

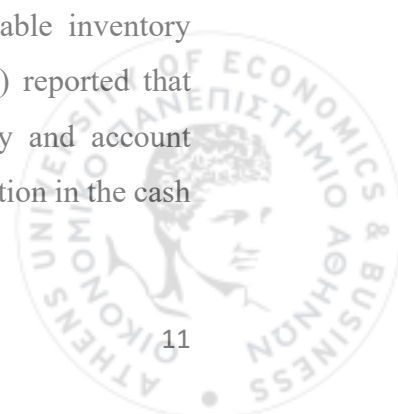


strengthened and a safety net that provides firms with a defense against market fluctuations is established.

It has been supported that if an efficient balance between receivables, inventory and payables is found, the end performance of the firm is enhanced. A study conducted by Lyroudi and Lazaridis (2000) on the Greek food market showcased that firms with more significant investments in working capital showed higher profitability potentially because of improved service and inventory availability that accommodates enhanced customer satisfaction and operational continuity. Moreover, Abuzayed (2012) performed an examination on the Jordanian market and found that the relationship between the cash conversion cycle and profitability in firms being active in that market is a positive one. He interpreted these findings as a result a lack of motivation for more profitable firms to engage in efficient working capital management because of the potential lack of market penalties for inefficient management. Knauer and Wöhrmann (2013) further reaffirmed the positive relationship hypothesis by their examination. They put emphasis on the fact that efficient management of the cash conversion cycle (especially an optimal inventory level and a receivables days level) plays a crucial role and has a positive relationship with a firm's profitability, highlighting the importance of well-constructed and executed WCM strategies that support sales through maintaining adequate inventory levels and potentially optimize the cost of capital.

In contrast, other studies that have been conducted about the correlations between WCM and profitability show a negative relationship between the two with an emphasis on the fact that firms that manage to keep lower levels of current assets relative to sales or production tend to achieve higher returns due to reduced holding costs, minimized financing costs and higher operational efficiency.

In Belgium, firms with reduced levels of accounts receivables and inventory holding period showed enhanced profitability and performed better than their competition. This was due to firms with a longer cash conversion cycle having costs because of the higher investment in working capital that were rising faster than the benefits they were gaining from giving more trade credit to customers and having more available inventory (Deloof, 2003). Moreover, García-Teruel and Martínez-Solano (2007) reported that small and medium-sized Spanish enterprises with reduced inventory and account receivables days levels had increased profitability. Because of the reduction in the cash



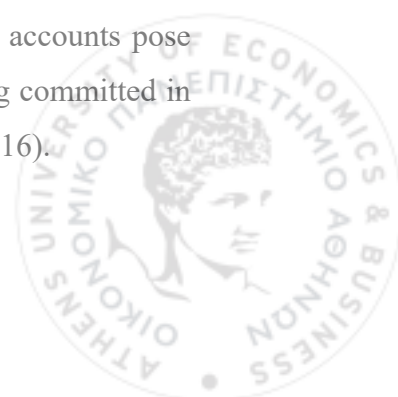
conversion cycle, firms had lowered costs, improved cash flow and excess liquidity that could be reinvested in value creation. Lastly, Pakistani manufacturing firms with longer cash conversion cycles experienced lower profitability than competitors with shorter cash conversion cycles. Firms with short cash conversion cycles have minimal cash tied up in working capital components (inventory, receivables) and as a result have increased liquidity and profitability. Furthermore, lesser levels of inventory found to increase profitability reducing holding costs and excess stock risk (Raheman et al., 2010). These cases underline that cash conversion cycle minimization strategies boost the firm profitability as they enable enhanced liquidity, reduced costs associated with storage, insurance and potential obsolescence, minimization of financing costs and lean and efficient operations.

2.2.3 Working Capital Management Strategies: Aggressive versus Conservative Approaches

As discussed above, liquidity and profitability are greatly affected by the selected approach of the firm for handling WCM. Aggressive WCM strategies aim to achieve working capital investment minimization whilst conservative WCM strategies aim to achieve higher liquidity and operational stability.

As stated above, the approach of aggressive WCM strategies reduces of, in the firm's opinion, redundant working capital in order to increase profitability by reducing holding costs and increasing the liquidity available for value creation usage. This approach creates risks of reduced customer satisfaction and as a result a potential loss of sales because of the inability to handle the demand and production inefficiencies and interruptions (Afrifa & Padachi, 2016).

On the opposite side, the approach of conservative WCM strategies aims to boost sales through receivables and inventory increase in order to achieve high profitability. The higher level of working capital shaped by conservative WCM strategies acts as a shield against these aforementioned risks but at the same time creates higher costs to accommodate the higher inventory levels and also forces the firm to implement more generous credit policies to its customers. However, increases in those accounts pose their own risks as they may result in the opportunity cost of cash being committed in those accounts and in the end reduce profitability (Afrifa & Padachi, 2016).



2.2.4 Meta-Analysis of the Relationship Between WCM and Profitability

A meta-analysis conducted on the relationship between WCM and profitability by quantitatively summarizing previous empirical findings of various studies yielded mixed results regarding the relationship between the cash conversion cycle and profitability and showed the importance that moderating variables have in the equation (Singh et al., 2016).

While short-term profitability may be enhanced by the usage of aggressive WCM strategies, its long-term potential risks of operational instability and customer dissatisfaction cannot be disregarded. In a similar way, while the usage of conservative WCM strategies is associated with weak short-term profitability, its long-term performance is often greater, especially in liquidity-centered sectors, due to the greater financial stability of the firms implementing it. The mixed results of the meta-analysis point towards the consensus that the outcome of the relationship between WCM and profitability is context-dependent and affected by factors such as market behavior, firm size and industry of operation.



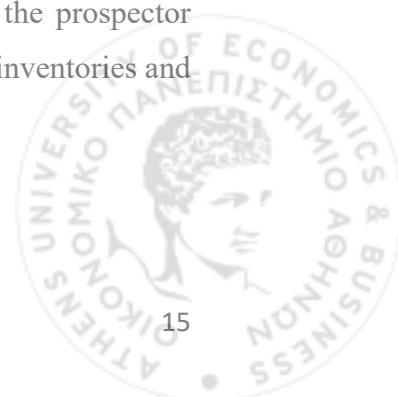


3. Motivation and Hypothesis Development

As stated in the previous chapters this thesis researches the effects different business strategies have on the relationship between the working capital management and the profitability of firms. The conduction of this research is focused on the specific dynamics within the United Kingdom market. As mentioned above, business strategy is a highly influential organizational instrument firms use to efficiently connect their resource allocation and processes with their long-term goals (Farida & Setuawan, 2022). The empirical research results are diverse on the matter of the impact that working capital management has on the end profitability of firms. This diversity often originates from various variables that exert moderating influence on this relationship such as the specific strategy a firm is pursuing (Singh et al., 2016). So, the strategic positioning of a firm plays a significant role and influences how the relationship between working capital management and profitability plays out.

Because of the dynamic nature of the business environment inside the United Kingdom, the United Kingdom corporate landscape was chosen as the focused market for the analysis of this thesis. The United Kingdom is home to high corporate diversity, being a place that combines both traditional sectors and emerging industries. Furthermore, the regulatory framework and the financial reporting standards of the United Kingdom provide a varied and extensive dataset for analysis that allows significant takeaways to be taken regarding the relationship different strategies shape between working capital management and profitability. Lastly, the United Kingdom market's focus on innovation and operational evolution offers a very appropriate environment for the contrasting types of prospector and defender to be tested as to their effects on the aforementioned relationship.

Miles et al. (1978) described firms that are following a prospector strategy as highly innovative and flexible entities that prioritize exploration in order to achieve success. Outperforming their competition especially in fast changing environments by being early detectors and adopters of new markets, products and services is their primary concern. The highly entrepreneurial characteristics of firms pursuing the prospector strategy lead to high investments in the working capital components of inventories and accounts receivable.



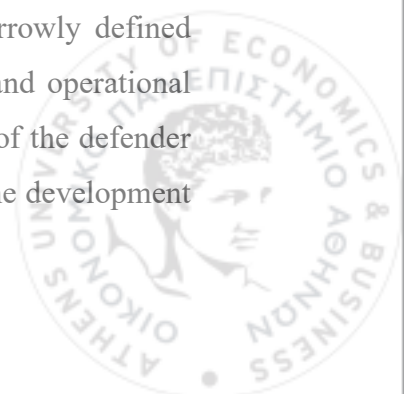
Because of the substantially varied products and markets prospectors operate in as well as the high risk of early product life cycles they take on, being equipped with high inventory levels is essential. Niche or experimental products may be saved in inventory (Miles et al., 1978). Those products often require high costs to be produced or be acquired and their demand is highly volatile. Furthermore, due to the constant need prospectors have in the acquisition and retention of customers due to the constant renewal of target markets and products, a lot of times they are forced to offer more forgiving credit terms than the competition and as a result present high accounts receivable levels. While this behavior enhances their entrepreneurial goals it is also paired with problems such as decreased cash flow and liquidity because of increased bad debts and delays in payments.

Very complex supply chain management procedures are another problem for prospectors due to their decentralized structure (Miles et al., 1978). Those procedures and structure shape the perception of prospectors as unreliable and high-risk entities and as a result they often receive unfavorable trade terms from suppliers. All of these complexities in the operations of prospectors lead to them having great difficulty in transforming their working capital management investments into profit. Consequently, prospectors are characterized by a weaker relationship between working capital management and profitability and by greater uncertainty in their results than other strategic typologies.

If all these observations about prospectors are taken into consideration, it can be reasonably hypothesized that firms that are pursuing the prospector strategic behavior will showcase a decreasing moderating effect between working capital management and profitability which means they are suboptimal at turning their investments in working capital management into profits.

H1: The presence of a prospecting strategic orientation has a decreasing moderating effect on the intensity of the relationship between working capital management and profitability.

On the other hand, defenders' main goal is the protection of the narrowly defined customer segment they serve on the market by prioritizing stability and operational efficiency (Miles et al. 1978). Significant components for the success of the defender strategy are constant process optimization, strict control of costs and the development



of economies of scale (Miles et al. 1978). In order to counter the market risks and achieve the highest possible stability defenders often adopt a hierarchical structure.

Because of their strategic orientation defenders are very efficient at enforcing efficient working capital management practices that are compatible with their priorities. Because of the focus on the stability, efficiency and punctuality of production defenders typically have an optimal and low inventory level. These policies result in minimal inventory holding costs efficient and timely service of their market. This strict approach to account management also translates to account receivables as it leads to minimization of collection times and bad debts and enhances cash flow. Because of their strict and efficient behavior, defenders also form very strong relationships with their suppliers which they leverage by achieving more lenient payment terms and as a result higher liquidity and more efficient cash conversion cycles.

All of these behavioral characteristics give defenders the capabilities to greatly leverage their working capital management investments. Their hierarchical structure and strict approach to accounts management enables them to achieve consistently strong results regarding profitability and performance, especially in stable industries (Miles et al., 1978; Hambrick 1983). This inherently close relationship between their strategic pursuits and their working capital management policies results in a strong relationship between working capital management and profitability.

Based on this strategic analysis and its impact on the accounting management of defenders, it is hypothesized that firms that are pursuing the defender strategic behavior will showcase an increasing moderating effect between working capital management and profitability which means they are optimal at turning their investments in working capital management into profits.

H2: The presence of a defending strategic orientation has an increasing moderating effect on the intensity of the relationship between working capital management and profitability.





4. Methodology

4.1 Data

This thesis utilizes data obtained from Refinitiv Eikon for firms listed in the United Kingdom from 2007 to 2022 with the starting sample containing 9,235 observations. In order for comparability to be insured, firms that are identified as financial services providers were excluded from the data sample. Specifically, this resulted in the removal of 600 financial services entities, including 55 banks, along with 144 equity investment instruments, 90 non-equity investment instruments, 41 real estate investment trusts and 380 real estate investment and services firms. Further, 179 suspended equities were also excluded from the data and as a result the final sample used for the descriptive and regression analyses contained 7,801 observations.

4.2 Econometric Methods

The following regression model of Eq. (1) is used to examine the effects of business strategy on the relationship between operating performance and working capital management:

$$\begin{aligned}
 ROA_{i,t} = & \alpha_0 + \alpha_1 WRCPMN_{i,t} + \alpha_2 WRCPMN_{i,t} \times PRSP_{i,t} \\
 & + \alpha_3 WRCPMN_{i,t} \times DFND_{i,t} + \alpha_4 ROA_{i,t-1} + \alpha_5 SZ_{i,t} \\
 & + \alpha_6 SLGR_{i,t} + \alpha_7 CRRT_{i,t} + \alpha_8 LVRG_{i,t} + \alpha_9 \frac{FNAS_{i,t}}{TTAS_{i,t}} + e_{i,t}
 \end{aligned}
 \tag{Eq. (1)}$$

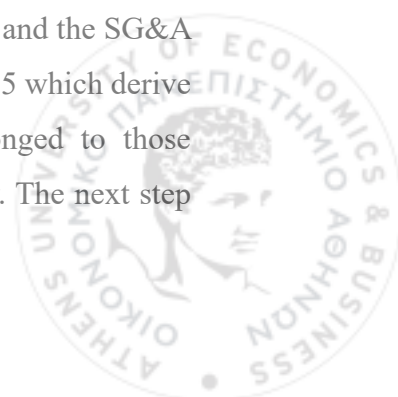
The firm's return on assets ($ROA_{i,t}$) is the dependent variable of the regression model. The calculation of $ROA_{i,t}$ is the ratio of earnings before interest, tax, and amortization ($EBITA_{i,t}$) to total assets ($TTAS_{i,t}$). The key independent variable in this regression model is represented by working capital management ($WRCPMN_{i,t}$). The working capital management is derived either by a firm's cash conversion cycle ($CSCNCC_{i,t}$) or by computation of its main components: the number of days to collect accounts receivable ($ACRCDS_{i,t}$), the inventory holding period ($INVDS_{i,t}$), and the number of days taken to pay creditors ($ACPBDS_{i,t}$). The working capital management related variables are derived as follows:



- Accounts Receivable Days ($ACRCDS_{i,t}$) is calculated as $365 \times (\text{Accounts Receivable} / \text{Sales})$, where a higher value points to a larger investment in accounts receivable.
- Inventory Holding Period ($INVDS_{i,t}$) is calculated as $365 \times (\text{Inventories} / \text{Purchases})$, with longer holding periods reflects higher inventory investments.
- Accounts Payable Days ($ACPBDS_{i,t}$) is calculated as $365 \times (\text{Accounts Payable} / \text{Purchases})$, where a higher value indicates longer payment periods to suppliers.
- Cash Conversion Cycle ($CSCNCC_{i,t}$) is calculated as $ACRCDS_{i,t}$ plus $INVDS_{i,t}$, minus $ACPBDS_{i,t}$. A longer cash conversion cycle shows that the firm takes more time to recover its cash spendings.

The key dummy variables of this regression model are $PRSP_{i,t}$ and $DFND_{i,t}$, which correspond to the two distinct strategic behaviors according to the classification process established by Bentley et al. (2013). The variable $PRSP_{i,t}$ is assigned the value 1 if the firm is classified as a prospector ($STRPOS_{i,t}$ score between 5 and 6), and in any other case is assigned the value 0. On the other hand, the variable $DFND_{i,t}$, is assigned the value 1 if the firm is classified as a defender ($STRPOS_{i,t}$ score between 0 and 1), and in any other case is assigned the value 0. The interaction terms $WRCPMN_{i,t} \times PRSP_{i,t}$ and $WRCPMN_{i,t} \times DFND_{i,t}$ are used in order for the firm's strategic behavior's (either prospector or defender) influence on the relationship between working capital management and profitability to be captured.

The variable $STRPOS_{i,t}$ is a strategic classification score originating from Miles and Snow's (1978, 2003) prior research. It is a variable used to classify firms as either Prospectors or Defenders, based on Bentley et al. (2013). Bentley et al. (2013), in order for firms to be classified into prospectors, defenders or analyzers based on their strategic pursuits, devised a specific classification process. The measurement of six variables was at the center of their approach, these variables were: R&D intensity, sales growth, employee fluctuation, capital intensity, employee-to-sales ratio and the SG&A expenses-to-sales ratio. Those variables were assigned scores from 1 to 5 which derive from their rankings within industry-year quintiles. Firms that belonged to those assigned higher scores were assumed to be using a prospector strategy. The next step

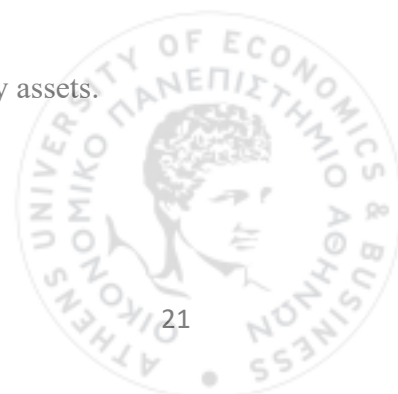


was a classification process in a continuum from 6 (firms using a defender strategy) to 30 (firms using a prospector strategy). The aim of this continuum scale was to depict the actions of said firms regarding organizational orientation and strategic behavior.

For simplification purposes, Bentley's measure was modified as follows: after the computation of Bentley's six variables, if a firm's variable value is less than the median it is assigned the binary value 0 and if it is greater than the median it is assigned the binary value 1. Then, after the computation of the strategic score of each firm which is derived from the sum of these 6 assigned values, firms that have obtained strategic scores of 0 and 1 are classified as defenders while firms that have obtained strategic scores of 5 and 6 are classified as prospectors. Additionally, the variable of operating efficiency (reverse-coded variable) is adjusted accordingly. The focus and insights gained by the strategic orientation of a firm are preserved while complexity is reduced by this binary method. Furthermore, this reclassification enhances the clarity of interpretation regarding the impact a firm's strategic approach has on the end result of their working capital management and their profitability. The simplification of the scoring method into two clear groups, enhances the analysis' focus on the impact distinct strategic approaches have on variables like working capital management and performance, without downscaling any of the analytical depth the original composite measure provided.

Further, the regression model of Eq. (1) includes specific control variables that are based on previous academic analysis (Jose et al., 1996; Deloof, 2003; Juan Garcia-Teruel & Martinez-Solano, 2007; Hill et al., 2010; Aktas et al., 2015; Boțoc & Anton, 2017; Anton & Nucu, 2022):

- $ROA_{i,t-1}$: Lagged value of ROA to control for the persistence of profitability.
- $SZ_{i,t}$: Firm size, typically measured as the natural logarithm of sales revenue.
- $SLGR_{i,t}$: Sales growth, the rate of change in a firm's sales over time.
- $CRRT_{i,t}$: Current ratio, a measure of liquidity, the ratio of current assets to current liabilities.
- $LVRG_{i,t}$: Leverage, the ratio of total debt to total assets or equity assets.



- $\frac{FNAS_{i,t}}{TTAS_{i,t}}$: The ratio of financial assets to total assets, the proportion of a firm's total assets invested in financial instruments.

These variables are there to ensure an extensive analysis on whether and how strategic behavior (prospector or defender) influences the relationship between working capital management and profitability.

Results from previous studies (Baños-Caballero et al., 2012; Afrifa & Padachi, 2016) have shown the existence of a non-monotonic relationship between working capital management and profitability, suggesting that an optimal working capital level can be achieved. In order for the analysis of this thesis to be reliable and effectively test the relationship between working capital management and profitability for non-linearity the regression model of Equation (1) was enriched with a quadratic term. As a result, non-linearity will be explored by the regression model of Equation (2).

$$\begin{aligned}
 ROA_{i,t} = & \alpha_0 + \alpha_1 WRCPMN_{i,t} + \alpha_2 WRCPMN_{i,t} \times PRSP_{i,t} \\
 & + \alpha_3 WRCPMN_{i,t} \times DFND_{i,t} + \alpha_4 WRCPMN_{i,t}^2 \\
 & + \alpha_5 WRCPMN_{i,t}^2 \times PRSP_{i,t} + \alpha_6 WRCPMN_{i,t}^2 \times DFND_{i,t} \quad \text{Eq. (2)} \\
 & + \alpha_7 ROA_{i,t-1} + \alpha_8 SZ_{i,t} + \alpha_9 SLGR_{i,t} + \alpha_{10} CRRT_{i,t} \\
 & + \alpha_{11} LVRG_{i,t} + \alpha_{12} \frac{FNAS_{i,t}}{TTAS_{i,t}} + e_{i,t}
 \end{aligned}$$



5. Empirical Results

5.1 Descriptive Statistics

Table 1 presents the cumulative descriptive statistics of key dependent ($ROA_{i,t}$) variables and the key independent ($CSCNCC_{i,t}$, $INVDS_{i,t}$, $ACPBDS_{i,t}$ and $ACRCDS_{i,t}$) variables of Equation (1) for the entire sample of observations. As a result, a holistic view is provided regarding the working capital management policies firms use and the financial performance of said firms.

Table 1: Descriptive Statistics

Variable	No. of Obs.	Mean	Median	Standard Deviation	Skewness	Kurtosis	Min	Max
$ROA_{i,t}$	22870	-12.31316	2.55	330.1255	21.77238	5321.276	-25516.1	30278.29
$CSCNCC_{i,t}$	21341	433.2771	95.87461	24116.64	30.89873	2252.443	-812490	1633314
$INVDS_{i,t}$	21341	64.17918	21.71353	4054.399	-14.16205	2769.294	-312075	243425.9
$ACPBDS_{i,t}$	21341	403.0686	60.90909	19137.1	-65.44066	8398.149	-2194076	909823.3
$ACRCDS_{i,t}$	21341	772.1665	112.9929	25053.89	23.81452	1868.556	-1066895	1724625

Variables are defined in Appendix 1.

The mean of $ROA_{i,t}$ (-12.31%) shows operations at a loss relative to total assets from the firms of the sample on average. The median of 2.55% indicates that modest profitability is achieved by the firm majority but due to a small number of firms operating with extreme losses (skewness of 21.77 and kurtosis 5,321.28) the mean is significantly reduced. The standard deviation of 330.13 highlights significant heterogeneity in the sample regarding financial performance.

The mean (433.28) of the cash conversion cycle ($CSCNCC_{i,t}$) suggests that the timespan firms need to convert their investments into cash exceeds one year. However, the median of 95.87 days is much lower than the mean indicating the presence of extreme outliers (skewness of 30.90 and kurtosis of 2,253.44) on cycle management efficiency that increase the mean significantly.

Regarding the inventory holding period ($INVDS_{i,t}$), the mean of 64.18 days and the median of 21.71 suggest that on average firms cycle their inventory relatively quickly, but the mean is once again increased by the presence of firms with longer holding periods. There is significant variability across the sample (standard deviation of

4,054.40) while the negative skewness (-14.16) and high kurtosis reveal the presence of outliers with very low holding periods.

The accounts payable days ($ACPBDS_{i,t}$) have a mean of 403.07 days and a median of 70.91 days showing an average significant delay regarding payments to suppliers although most firms need significantly less time to do so pointing once again to the presence of outliers increasing the mean. The skewness of -65.44 and extreme kurtosis of 8,398.15 point to the existence of a small number of firms with extremely low accounts payable days while the standard deviation of 19,137.1 show significant variation regarding payment practices.

Lastly, regarding accounts receivable days ($ACRCDS_{i,t}$), the mean of 772.17 days and the median of 112.99 days show that while most firms are efficient enough in collecting their receivables a number of firms with significantly longer collection times (skewness of 23.81 and kurtosis of 1,868.56) increase the mean. High variability in the sample is observed as indicated by the significant standard deviation of 25,053.89.

Following the cumulative descriptive statistics, a comparative analysis of the descriptive statistics for the two strategic types of prospectors and defenders presented in Table 2 and Table 3 respectively is provided in this section. The focus of the comparative analysis is on the key dependent ($ROA_{i,t}$) and the key independent ($CSCNCC_{i,t}$, $INVDS_{i,t}$, $ACPBDS_{i,t}$ and $ACRCDS_{i,t}$) variables used in the regression model. The aim of this section is to shine light on the different results these strategic orientations have regarding profitability and working capital management.

Table 2: Descriptive Statistics for Prospectors

Variable	No. of Obs.	Mean	Median	Standard Deviation	Skewness	Kurtosis	Min	Max
$ROA_{i,t}$	3931	-24.67135	-10.8	190.4069	11.05578	1421.455	-6450.39	8547.85
$CSCNCC_{i,t}$	3578	457.3049	208.5714	15127.32	-16.44021	773.9108	-604805	225022.5
$INVDS_{i,t}$	3578	5.952039	14.8956	6748.787	-24.49498	1413.714	-312075	161147.5
$ACPBDS_{i,t}$	3578	893.2309	103.2513	9571.68	10.48311	223.4296	-128480	231410
$ACRCDS_{i,t}$	3578	1344.584	257.7868	15125.43	1.435185	268.0256	-398215	284456.7

Variables are defined in Appendix 1.

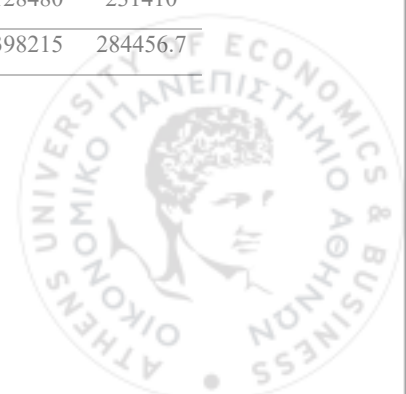


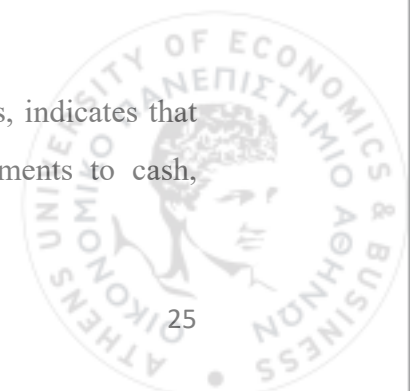
Table 3: Descriptive Statistics for Defenders

Variable	No. of Obs.	Mean	Median	Standard Deviation	Skewness	Kurtosis	Min	Max
$ROA_{i,t}$	662	5.773716	5.25	9.781542	-2.948661	40.90498	-107.2	56.21
$CSCNCC_{i,t}$	705	170.1541	96.51737	1421.807	22.6066	589.521	-9933.214	36189.28
$INVDS_{i,t}$	705	78.89141	32.92255	1056.73	13.28396	423.7522	-14026.43	24080.64
$ACPBDS_{i,t}$	705	79.63311	52.56238	1015.876	8.269055	379.168	-15851.43	21724.05
$ACRCDS_{i,t}$	705	170.8958	94.77485	1358.01	20.70113	545.5053	-11758.21	33832.69

Variables are defined in Appendix 1.

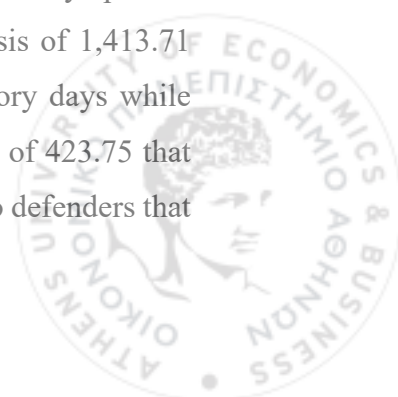
Prospectors exhibit a mean value of $ROA_{i,t}$ equal to -24.67% indicating that firms that are assigned this strategic classification experiencing losses. This empirical result can be attributed to the strategic aggressiveness of prospectors as their strategy often includes high innovation and market exploration investments. This approach as a result prioritizes long-term success over short-term profitability. On the other hand, defenders exhibit an average $ROA_{i,t}$ of 5.77% showcasing their cost-efficient and risk-averse approach. Regarding $ROA_{i,t}$ variability, prospectors record a standard deviation of 190.41 indicative of significant variation in financial performance probably because of the different levels of success these high-risk high-reward strategies yield. Defenders have a considerably lower standard deviation (9.78) than prospectors showing a more homogeneous and predictable financial performance among this strategic type. Lastly, prospectors have a positively skewed distribution of 11.06 and extremely high kurtosis of 1,421.46 showcasing the presence of outliers with extremely high profitability possibly due to rapid market condition changes or successful implementation of their highly exploratory strategy. Defenders achieve a negative skewness of -2.95 and a high kurtosis of 40.90 indicative of a concentration of firms near moderate profitability with a small number of them having a significantly lower $ROA_{i,t}$. Overall, prospectors face higher volatility and financial risk while defenders achieve a steady but modest profitability.

The mean value of the variable $CSCNCC_{i,t}$, in the case of prospectors, indicates that these firms require on average 457.30 days to convert their investments to cash,



showcasing longer inventory holding periods and extended credit policies to their customers which corresponds with the market-centered strategy they use but causes liquidity shortages. On the other hand, defenders achieve a significantly lower cash conversion cycle mean of 170.15 days that reflects their prioritization of efficiency, liquidity and operational consistency. The variability of the cash conversion cycle for prospectors is very significant showing high heterogeneity in working capital management with some prospectors efficiently managing their cycles while other experience severe inefficiencies. In contrast, defenders achieve a significantly lower standard deviation than prospectors showing a higher homogeneity in their group. As to cash conversion cycle skewness and kurtosis, prospectors have a negative skewness of -16.44 and a kurtosis of 773.91 showing extreme outliers with some firms having significantly shorter cycles possibly because of higher operational efficiency than the rest or successful strategic experimentation. Defenders have a high skewness of 22.61 and a kurtosis of 589.52 that shows firms with very long cycles but these cases of performance outliers are less frequent than in the prospector group. Summarizing, defenders show higher efficiency in the cash conversion cycle management, indicative of their conservative approaches while prospectors have extended cycles that highlight the high-risk high-reward strategies they follow prioritizing their flexibility and focus on long-term growth.

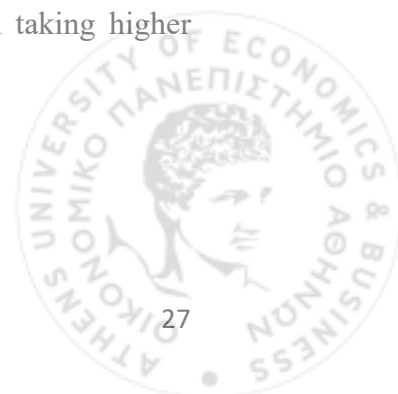
In the case of prospectors, the average inventory turnover days ($INVDS_{i,t}$), equals to 5.95 days showing efficiency in the inventory turnover of most of the sample that agrees with their focus on quick responses to market changes. Defenders hold their inventory for an average of 78.89 days showcasing once again their conservative approach regarding inventory management that strengthens their operational stability. Prospectors show very high variation in their inventory management with a standard deviation of 6,748.79 with outliers that hold inventory for extended periods that may be attributed to supply chain or operational inefficiencies. Defenders also show variation but with a less high standard deviation than prospectors of 1,056.73 suggesting both groups face levels of variation possibly because of industry-specific factors. Prospectors have an extreme skewness of -24.49 and a kurtosis of 1,413.71 showing a number of firms with an extremely low number of inventory days while defenders show a slightly less extreme skewness of 13.28 and kurtosis of 423.75 that point to there being less outliers than the prospector group. Compared to defenders that



prioritize a more measured approach, prospectors showcase higher inventory efficiency although their variability shows inconsistencies in their operations.

The average accounts payable days ($ACPBDS_{i,t}$) for prospectors equals to 893.23 days showing extreme delays in paying their suppliers possibly taking advantage of credit policies to use the money in growth creation activities. On the other hand, defenders take on average 79.63 days to pay back their suppliers showing their emphasis on strong supplier relationships and assurance of operational stability. Prospectors, again have a very high standard deviation of 9,571.68 showing inconsistent payment policies with some prospectors extending payments to extreme lengths while defenders with a standard deviation of 1,015.88 show more consistent payment practices. Prospectors have a skewness of 10.48 and a kurtosis of 223.42 suggesting that a small number of firms have a high influence on the mean by having a more extreme payment behavior. On the other hand, defenders have a lower skewness of 8.27 and a kurtosis of 379.17 indicating fewer but more extreme outliers. Summarizing, prospectors tend to prioritize liquidity more than supplier relationships while in contrast, defenders showcase timely payments consistent with their prioritization of stability.

The average accounts receivable days ($ACRCDS_{i,t}$) for prospectors equals to 1,344.58 days showing an extremely long receivables collection period possibly due to lenient credit practices in order to enhance customer acquisition and retention, on the other hand defenders approach receivables collection with more discipline to credit management as their mean is at 170,89 days. Again, prospectors show significant variation with a standard deviation of 15, 125.43 with some firms taking prolonged periods to collect their receivables while the lower standard deviation (1,358.01) of defenders shows bigger consistency within the group. Lastly prospectors have a skewness of 1.44 and a kurtosis of 268.02 showing a small number of firms with very high receivable days likely due to inefficiencies, while on the other hand, defenders with a skewness of 20.7 and a kurtosis of 545.5 exhibit more intense outliers on the higher end than those of prospectors. Overall defenders are more efficient in receivables management as prospectors' market-centered strategies lead them on taking higher liquidity risks in order to capture and extend their clientele.



The cumulative pairwise correlation analysis presented in Table 4 researches the different relationships between $ROA_{i,t}$ and the key working capital management metrics ($CSCNCC_{i,t}$, $INVDS_{i,t}$, $ACPBDS_{i,t}$ and $ACRCDS_{i,t}$) taking into consideration the whole sample regardless of what business strategy is chosen. No strong correlation or statistical significance is observed between $ROA_{i,t}$ and the working capital metrics with the exception of accounts payable ($ACPBDS_{i,t}$) where a small negative correlation exists ($r = 0.0149$, $p\text{-value} = 0.0362$). The results are indicative of profitability not being directly affected from the working capital management metrics except from the marginal negative effect observed by the accounts payable.

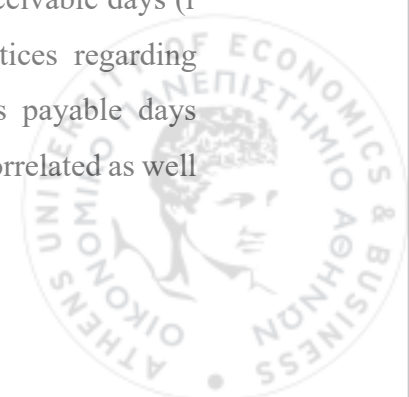
However, the metrics themselves show strong interconnectedness. The cash conversion cycle ($CSCNCC_{i,t}$) is positively and significantly correlated with the inventory holding period ($r = 0.3119$, $p\text{-value} = 0.0000$) and the accounts receivable days ($r = 0.6983$, $p\text{-value} = 0.0000$) while showcasing a negative relationship with accounts payable days ($r = -0.2799$, $p\text{-value} = 0.0000$).

Table 4: Pairwise Correlations

Variable	$ROA_{i,t}$	$CSCNCC_{i,t}$	$INVDS_{i,t}$	$ACPBDS_{i,t}$	$ACRCDS_{i,t}$
$ROA_{i,t}$	1.0000	0.0088	0.0032	-0.0149	-0.0034
p-value		(0.2144)	(0.6570)	(0.0362)	(0.6368)
$CSCNCC_{i,t}$	0.0088	1.0000	0.3119	-0.2799	0.6983
p-value	(0.2144)		(0.0000)	(0.0000)	(0.0000)
$INVDS_{i,t}$	0.0032	0.3119	1.0000	0.1109	0.2232
p-value	(0.6570)	(0.0000)		(0.0000)	(0.0000)
$ACPBDS_{i,t}$	-0.0149	-0.2799	0.1109	1.0000	0.4764
p-value	(0.0362)	(0.0000)	(0.0000)		(0.0000)
$ACRCDS_{i,t}$	-0.0034	0.6983	0.2232	0.4764	1.0000
p-value	(0.6368)	(0.0000)	(0.0000)	(0.0000)	

Variables are defined in Appendix 1.

The inventory holding period ($INVDS_{i,t}$) has a moderate positive relationship with accounts payable days ($r = 0.1109$, $p\text{-value} = 0.0000$) and accounts receivable days ($r = 0.2232$, $p\text{-value} = 0.0000$) showing alignment between the practices regarding inventory and payment management. In the same pattern, accounts payable days ($ACPBDS_{i,t}$) and accounts receivable days ($ACRCDS_{i,t}$) are moderately correlated as well



($r = 0.4764$, $p\text{-value} = 0.0000$) indicating consistency between payables and receivables policies adoption.

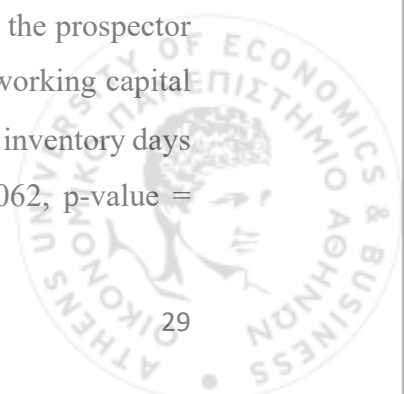
No significant linear relationship between $ROA_{i,t}$ and the working capital metrics namely the cash conversion cycle ($r = -0.0017$, $p\text{-value} = 0.9187$), the inventory days ($r = 0.0005$, $p\text{-value} = 0.9775$), the accounts payable days ($r = -0.0093$, $p\text{-value} = 0.5828$) and the account receivable days ($r = -0.0078$, $p\text{-value} = 0.6439$) is revealed by the correlation analysis for prospectors exhibited in Table 5, showcasing that these variables in the prospector group do not directly influence profitability. But the working capital metrics have strong positive correlations with each other. Cash conversion cycle is closely linked to the inventory days ($r = 0.7913$, $p\text{-value} = 0.000$), accounts receivable days ($r = 0.8084$, $p\text{-value} = 0.000$) and more moderately to accounts payable days ($r = 0.2550$, $p\text{-value} = 0.000$). Furthermore, inventory days and accounts payable days show a moderate correlation ($r = 0.3831$, $p\text{-value} = 0.0000$), suggesting a strategic alignment exists between inventory and payment management.

Table 5: Pairwise Correlations for Prospectors

Variable	$ROA_{i,t}$	$CSCNCC_{i,t}$	$INVDS_{i,t}$	$ACPBD_{i,t}$	$ACRCDS_{i,t}$
$ROA_{i,t}$	1.0000	-0.0017	0.0005	-0.0093	-0.0078
p-value		(0.9187)	(0.9775)	(0.5828)	(0.6439)
$CSCNCC_{i,t}$	-0.0017	1.0000	0.7913	0.2550	0.8084
p-value	(0.9187)		(0.0000)	(0.0000)	(0.0000)
$INVDS_{i,t}$	0.0005	0.7913	1.0000	0.3831	0.5876
p-value	(0.9775)	(0.0000)		(0.0000)	(0.0000)
$ACPBD_{i,t}$	-0.0093	0.2550	0.3831	1.0000	0.7169
p-value	(0.5828)	(0.0000)	(0.0000)		(0.0000)
$ACRCDS_{i,t}$	-0.0078	0.8084	0.5876	0.7169	1.0000
p-value	(0.6439)	(0.0000)	(0.0000)	(0.0000)	

Variables are defined in Appendix 1.

The results for the defender group exhibited in Table 6 are similar with the prospector group as weak and insignificant relationships between $ROA_{i,t}$ and the working capital metrics i.e. the cash conversion cycle ($r = -0.0069$, $p\text{-value} = 0.8602$), the inventory days ($r = -0.0065$, $p\text{-value} = 0.8680$), the accounts payable days ($r = -0.0062$, $p\text{-value} =$



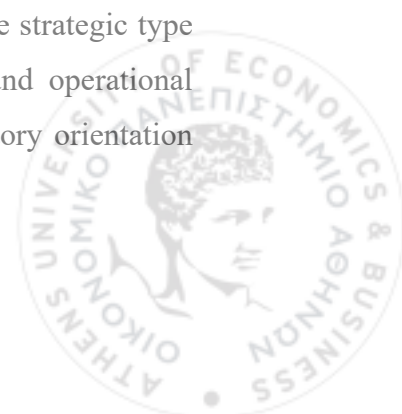
0.8732), and the accounts receivable days ($r = -0.0068$, $p\text{-value} = 0.8615$) were observed by the correlation analysis showing that profitability isn't significantly affected by these variables either for defenders. But working capital metrics in these group exhibited stronger relationships compared to prospectors with the cash conversion cycle showing high correlations with the inventory days ($r = 0.9617$, $p\text{-value} = 0.0000$) and the accounts receivable days ($r = 0.9933$, $p\text{-value} = 0.0000$). Furthermore, inventory days is shown to be strongly linked to accounts payable days ($r = 0.9868$, $p\text{-value} = 0.0000$). These results of strong relationships correlate with the defender's structured and consistent working capital management strategies.

Table 6: Pairwise Correlations for Defenders

Variable	$ROA_{i,t}$	$CSCNCC_{i,t}$	$INVDS_{i,t}$	$ACPBDS_{i,t}$	$ACRCDS_{i,t}$
ROA_{i,t}	1.0000	-0.0069	-0.0065	-0.0062	-0.0068
p-value		(0.8602)	(0.8680)	(0.8732)	(0.8615)
CSCNCC_{i,t}	-0.0069	1.0000	0.9617	0.9286	0.9933
p-value	(0.8602)		(0.0000)	(0.0000)	(0.0000)
INVDS_{i,t}	-0.0065	0.9617	1.0000	0.9868	0.9669
p-value	(0.8680)	(0.0000)		(0.0000)	(0.0000)
ACPBDS_{i,t}	-0.0062	0.9286	0.9868	1.0000	0.9524
p-value	(0.8732)	(0.0000)	(0.0000)		(0.0000)
ACRCDS_{i,t}	-0.0068	0.9933	0.9669	0.9524	1.000
p-value	(0.8615)	(0.0000)	(0.0000)	(0.0000)	

Variables are defined in Appendix 1.

The comparative results of the correlation analysis show weak and insignificant correlations between $ROA_{i,t}$ and working capital metrics for both strategic types of prospectors and defenders indicating that profitability is probably driven by external factors such as strategic approaches or the specific market condition that firms compete in rather than traditional working capital management. However, very strong inter-correlations between the working capital metrics were observed for the strategic type of defenders showcasing their strategic priorities of risk-aversion and operational consistency. On the other hand, the prospector's flexible and exploratory orientation



towards the operations is reflected in the moderate-to-strong but more variable inter-correlations.

5.2 Regression Results

Initially tests for heteroscedasticity, autocorrelation and an effect specification test were conducted for each of the four regressions representing Equation 1 in Table 7. More specifically, the Breusch-Pagan/Cook-Weisberg test was performed to search for heteroscedasticity, the Breusch-Godfrey test was performed to search for autocorrelation and the Hausman specification test was conducted to test whether fixed or random effects were preferred for the regressions. These tests confirmed the existence of both heteroscedasticity and autocorrelation as well as the preference for fixed effect usage in all four models. In the regression whose main independent variable is $CSCNCC_{i,t}$ the Breusch-Pagan/Cook-Weisberg test yielded a chi2 statistic that is equal to 1524.56 (p-value = 0.000) and the Breusch-Godfrey test yielded a chi2 statistic that is equal to 41.663 (p-value = 0.000) signaling a strong presence of heteroscedasticity and autocorrelation in the regression.

This pattern of results continued in all of the three remaining models. The regression with the main independent variable of $INVDS_{i,t}$ yielded a chi2 statistic that is equal to 15570.10 (p-value = 0.000) in the Breusch-Pagan/Cook-Weisberg test and a chi2 statistic that is equal to 43.416 (p-value = 0.000) in the Breusch-Godfrey test. The regression with the main independent variable of $ACPBDS_{i,t}$ yielded a chi2 statistic that is equal to 14825.83 (p-value = 0.000) in the Breusch-Pagan/Cook-Weisberg test and a chi2 statistic that is equal to 40.263 (p-value = 0.000) in the Breusch-Godfrey test. Lastly, the regression with the main independent variable of $ACRCDS_{i,t}$ yielded a chi2 statistic that is equal to 14947.75 (p-value = 0.000) in the Breusch-Pagan/Cook-Weisberg test and a chi2 statistic that is equal to 38.112 (p-value = 0.000) in the Breusch-Godfrey test. As a result, the models were estimated with year and industry fixed effects, and White's heteroscedasticity-corrected standard errors clustered by firm to control for both heteroscedasticity and autocorrelation. Further, in order for the influence of extreme outliers to be reduced in the sample, the data were Winsorised at the 1st and 99th percentile. As a result, values below the 1st percentile and above the 99th percentile have been replaced with the respective boundary values.

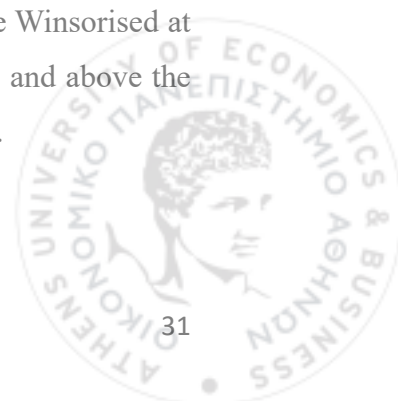


Table 7. Empirical Results of Eq.1

WCM Representation	CSCNCC _{i,t}			INVDS _{i,t}			ACPBDS _{i,t}			ACRCDS _{i,t}		
	Coefficient Estimates	(<i>t</i> -stat)	P > <i>t</i>	Coefficient Estimates	(<i>t</i> -stat)	P > <i>t</i>	Coefficient Estimates	(<i>t</i> -stat)	P > <i>t</i>	Coefficient Estimates	(<i>t</i> -stat)	P > <i>t</i>
Dependent variable: ROA_{i,t}												
α₀:	-21.46006	-2.65	0.008	-21.04091	-2.58	0.010	-21.90788	-2.72	0.007	-22.52345	-2.79	0.005
α₁: WRCPMN_{i,t}	0.0004198	1.67	0.095	0.0031335	2.87	0.004	0.0008346	2.31	0.021	0.00077	3.97	0.000
α₂: WRCPMN_{i,t} × PRSP_{i,t}	0.0007051	0.47	0.640	0.0063388	0.71	0.477	-0.0015489	-0.60	0.548	-0.0005524	-0.49	0.625
α₃: WRCPMN_{i,t} × DFND_{i,t}	-0.0001174	-0.02	0.985	-0.0044971	-0.32	0.752	0.0030902	0.31	0.756	0.0026094	0.42	0.676
Control variables:	Yes			Yes			Yes			Yes		
Number of obs.:	7340			7340			7340			7340		
R-squared:	0.1941			0.1906			0.1998			0.1981		

Variables are defined in Appendix 1.



The results of these regressions provide insights for the relationship between working capital management, strategic choices and profitability (which is measured by $ROA_{i,t}$). Each of the four models account for working capital management through either the cash conversion cycle ($CSCNCC_{i,t}$) of the company or one of its three components ($INVDS_{i,t}$, $ACPBDS_{i,t}$ and $ACRCDS_{i,t}$) in order to assess their effects and interactions on profitability depending on the strategic orientation of firms.

As presented on Table 7, the negative (values ranging from -21.04 to -22.52) and statistically significant (p-values below 0.05) estimated values of the intercept (α_0) in all four regression model representations of the estimated model of Equation (1) suggest that profitability is negative when the other variables are at average levels. This result possibly occurs because of factors that have not been included in the models or exist outside of the firms and impact their profitability and is indicative of challenges they face.

The direct impact of working capital management on profitability ($ROA_{i,t}$) is reflected in the coefficient (α_1). In the cash conversion cycle model, the estimated value of the $WRCPMN_{i,t}$ coefficient is positive ($\alpha_1 = 0.0004198$) but insignificant (p-value = 0.095) showing a weak positive relationship. However, in the other three models where $WRCPMN_{i,t}$ is represented by $INVDS_{i,t}$, $ACPBDS_{i,t}$ and $ACRCDS_{i,t}$ there are much stronger significant positive relationships observed showcasing the significant role of receivables, payables and inventory management in achieving greater profitability.

The interaction terms $WRCPMN_{i,t} \times PRSP_{i,t}$ and $WRCPMN_{i,t} \times DFND_{i,t}$ are there to isolate the effect that these strategic orientations have in the relationship between WCM and profitability. In all of the models, statistical insignificance is observed regarding these interaction terms (p-values well above 0.05 and t-statistics close to 0), showcasing that neither the prospector nor the defender strategic typologies have a meaningful effect in the relationship between WCM and profitability.

The control variables that are included in the models to represent firm-specific factors such as size, leverage and liquidity are only partly explanatory of the different influences in profitability. This is derived from the fact that the R-squared values range from 0.1906 to 0.1998 showing that about 19-20% of the variance in $ROA_{i,t}$ is explained

by these models which is a moderate but typical level of explanatory power for financial data regressions.

Overall, the results of these models show that there is a significant positive relationship between working capital management and profitability, especially through efficient management of inventory, receivables and payables. However, the strategic orientation of firms does not play a significant role in this relationship.

The contents of Table 8 provide the empirical results of four regressions analyzing the relationship between working capital management, business strategy and profitability with the inclusion of quadratic terms to capture any potential non-linearity in the relationship. As in the previous models, $WRCPMN_{i,t}$ is represented either by the cash conversion cycle ($CSCNCC_{i,t}$) or by one of its components ($INVDS_{i,t}$, $ACPBDS_{i,t}$ and $ACRCDS_{i,t}$) and the interaction terms $WRCPMN_{i,t} \times PRSP_{i,t}$ and $WRCPMN_{i,t} \times DFND_{i,t}$ account for the effects of the prospector and defender strategic type on the relationship between working capital management and profitability.

Once again, for these four models the Breusch-Pagan/Cook-Weisberg test, the Breusch-Godfrey test and the Hausman specification test were applied to search for heteroscedasticity, autocorrelation and effects specification. The results were similar as both heteroscedasticity, autocorrelation and the preference for fixed effect usage was indicated in all four models. As a result, the models were estimated with year and industry fixed effects, and White's heteroscedasticity-corrected standard errors clustered by firm to control for both heteroscedasticity and autocorrelation. Further, in order for the influence of extreme outliers to be reduced in the sample, the data were Winsorised at the 1st and 99th percentile. As a result, values below the 1st percentile and above the 99th percentile have been replaced with the respective boundary values.



Table 8: Empirical Results of Eq.2

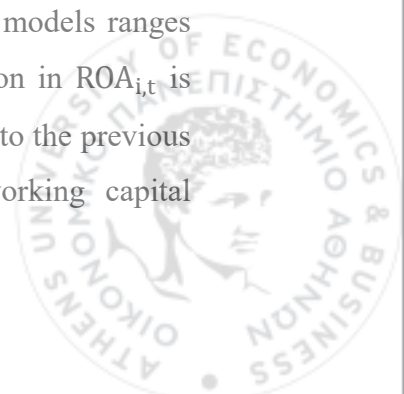
WCM Representation	CSCNCC _{i,t}			INVDS _{i,t}			ACPBDS _{i,t}			ACRCDS _{i,t}		
	Coefficient Estimates	(t-stat)	P > t	Coefficient Estimates	(t-stat)	P > t	Coefficient Estimates	(t-stat)	P > t	Coefficient Estimates	(t-stat)	P > t
Dependent variable: ROA_{i,t}												
α_0 :	-21.23010	-2.64	0.008	-19.98772	-2.50	0.013	-21.53710	-2.67	0.008	-22.37514	-2.77	0.006
α_1 : WRCPMN _{i,t}	0.0004266	1.78	0.076	0.0026598	2.31	0.021	0.0010426	2.66	0.008	0.0008551	3.81	0.000
α_2 : WRCPMN _{i,t} × PRSP _{i,t}	0.0009456	0.50	0.615	0.0151758	1.23	0.218	-0.0025357	-0.83	0.406	-0.001365	-1.00	0.318
α_3 : WRCPMN _{i,t} × DFND _{i,t}	-0.0034827	-0.18	0.861	-0.022173	-0.37	0.710	-0.0389038	-0.92	0.360	0.0016501	0.08	0.940
α_4 : WRCPMN _{i,t} ²	-2.69e-09	-0.32	0.751	-2.05e-07	-0.68	0.495	-2.08e-08	-1.31	0.189	-6.16e-09	-1.01	0.312
α_5 : WRCPMN _{i,t} ² × PRSP _{i,t}	-8.26e-08	-0.20	0.840	0.0000134	-1.15	0.249	2.72e-07	0.50	0.616	1.62e-07	1.06	0.288
α_6 : WRCPMN _{i,t} ² × DFND _{i,t}	0.0000249	0.19	0.851	0.0002849	0.32	0.751	0.0005678	1.06	0.292	8.67e-06	0.05	0.960
Control variables:	Yes			Yes			Yes			Yes		
Number of obs.:	7340			7340			7340			7340		
R-squared:	0.1947			0.1930			0.2003			0.1983		

Variables are defined in Appendix 1.

More specifically, in the regression whose main independent variable is $CSCNCC_{i,t}$ the Breusch-Pagan/Cook-Weisberg test yielded a chi2 statistic that is equal to 14888.65 (p-value = 0.000) and the Breusch-Godfrey test yielded a chi2 statistic that is equal to 43.957 (p-value = 0.000) signaling a strong presence of heteroscedasticity and autocorrelation in the regression. This pattern of results continued in all of the three remaining models. The regression with the main independent variable of $INVDS_{i,t}$ showed a chi2 statistic that is equal to 14866.03 (p-value = 0.000) in the Breusch-Pagan/Cook-Weisberg test and a chi2 statistic that is equal to 48.296 (p-value = 0.000) in the Breusch-Godfrey test. The regression with the main independent variable of $ACPBDS_{i,t}$ showed a chi2 statistic that is equal to 14821.26 (p-value = 0.000) in the Breusch-Pagan/Cook-Weisberg test and a chi2 statistic that is equal to 39.690 (p-value = 0.000) in the Breusch-Godfrey test. Lastly, the regression with the main independent variable of $ACRCDS_{i,t}$ showed a chi2 statistic that is equal to 14990.35 (p-value = 0.000) in the Breusch-Pagan/Cook-Weisberg test and a chi2 statistic that is equal to 37.775 and (p-value = 0.000) in the Breusch-Godfrey test).

The estimated value of the intercept (α_0) is negative and statistically significant (p-value < 0.05) in all estimated models showing a baseline negative impact on $ROA_{i,t}$ not explained by the regressions. The direct effect of working capital management (α_1) is positive in all models and as a result indicative of a more efficient working capital management being associated with greater profitability. In the regression model with $CSCNCC_{i,t}$ dependent variable the effect is only marginally significant (p-value = 0.076) as it was in the non-quadratic regression showcasing that the cash conversion cycle has a weaker impact on $ROA_{i,t}$ than its components but in the other three models the coefficients are statistically significant (p-value = 0.021, 0.008 and 0.000, respectively), showing the significant influence they have on the financial health of firms.

The estimated values of the coefficient for interaction terms of $WRCPMN_{i,t} \times PRSP_{i,t}$ and $WRCPMN_{i,t} \times DFND_{i,t}$ are once again statistically insignificant (p > 0.05) showing no meaningful moderation in the relationship of working capital management and profitability from different strategic types. The R-squared of the models ranges from 0.1930 to 0.2003 showing that 19.3% to 20.03% of the variation in $ROA_{i,t}$ is explained by the independent variables. Overall, the results are similar to the previous four regressions as they highlight the importance of efficient working capital



management in the end profitability of firms without leading to any significant change in this relationship being provoked from the business strategy the firms are using.

Regarding the quadratic terms included in these regressions, in all of the models the quadratic term $WRCPMN_{i,t}^2$ is statistically insignificant (The $CSCNCC_{i,t}$ regression has t-statistics of -0.32 and a p-value of 0.751. Similarly, the $INVDS_{i,t}$, $ACPBDS_{i,t}$ and $ACRCDS_{i,t}$ regressions have t-statistics of -0.68,-1.31 and -1.01 and p-values of 0.495, 0.189 and 0.312 respectively) showing a lack of evidence in order for the existence of a non-linear relationship between working capital management and profitability to be supported and consequently no decreasing or increasing returns as WCM investments grow are observed.

The interaction terms of the quadratic component of working capital management and business strategy ($WRCPMN_{i,t}^2 \times PRSP_{i,t}$ and $WRCPMN_{i,t}^2 \times DFND_{i,t}$) are also statistically insignificant in every regression (p-value = 0.840 for prospectors and p-value = 0.851 for defenders in the $CSCNCC_{i,t}$ regression, p-value = 0.249 for prospectors and p-value = 0.751 for defenders in the $INVDS_{i,t}$ regression, p-value = 0.616 for prospectors and p-value = 0.292 for defenders in the $ACPBDS_{i,t}$ regression and p-value = 0.288 for prospectors and p-value = 0.960 for defenders in the $ACRCDS_{i,t}$ regression) showing strategy has no impactful non-linear affect on the relationship between working capital management and profitability.

In summary, a predominant linearity is revealed in the relationship between working capital management and profitability by the addition of the quadratic terms in these regression models. Evidence of non-linearity is not provided either from the quadratic terms of working capital management or from their interaction terms with the prospector and defender strategic type.



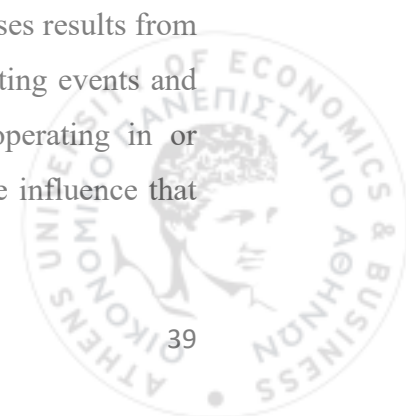


6. Conclusions

This thesis explored the relationship between working capital management and profitability, focusing on firms operating inside the United Kingdom market. This research incorporated the influence that business strategies exert in this relationship, more specifically the strategies employed by this analysis were prospectors and defenders, strategic typologies that were developed by Miles and Snows research. The main goal was to evaluate whether strategic orientation has a moderating role in this relationship and whether this moderation is positively or negatively connected with the correlation of working capital management and profitability.

The analyses showcased that working capital management components (inventory holding periods, accounts receivable and accounts payable) are significantly and positively linked to profitability. Efficient management of those key accounts consistently demonstrated a positive effect on the end profitability of firms, indicative of the high importance efficient working capital management policies and practices have on the success of the firms employing them. However, contrary to expectations, strategic orientation's effect on the relationship of working capital management and profitability was not statistically significant. Neither of the two strategic types, namely prospectors and defenders, tested were shown to either positively or negatively impact efficient working capital management's enhancement of firms' profitability. These results suggest that while effective working capital management is crucial for firm success, the interplay is generally efficient independently of the business strategy a firm is using. Moreover, no evidence of non-linearity was exhibited by the analyses, demonstrating that contrary to prior research, the findings of this thesis point to no optimal level of working capital existing after which return on investment is declining.

Further, neither firms employing a prospector strategy were found to have a decreasing effect on the relationship of working capital management and profitability nor firms employing a defender strategy were found to have an increasing effect on the relationship between working capital management and profitability contrary to what was anticipated. A possible explanation for the divergence of the analyses results from the initial expectations of this thesis is that there are external moderating events and factors such as certain eccentricities of the industries firms are operating in or exceptionally loose or strict regulatory policies that are overriding the influence that



internal factors, such as the business strategy, exert on the relationship between working capital management and profitability.

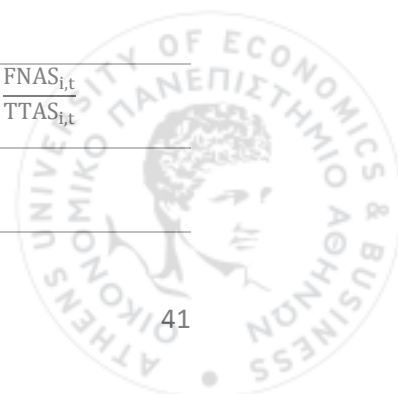
These results as a whole suggest that while high importance should be attributed to efficient and effective management of working capital accounts in order for a firm to be successful, firms should prioritize addressing external environmental factors and modify their working capital management strategies accordingly. Furthermore, these findings highlight the need for firms to incorporate a perspective that is broader and more focused on natural externalities and the idiosyncrasies of the specific market they operate in in order to be successful on the long-term.

In conclusion, this thesis highlights the importance that working capital management accounts and their efficient handling has on the operational and financial success of a firm, but diverges from the results of previous research that support that business strategy has a pivotal role in that success. These findings that are attributed to the United Kingdom market contribute to the strategic financial management literature and provide a starting point for future research that should be more externally focused when testing the relationship between working capital management and profitability.

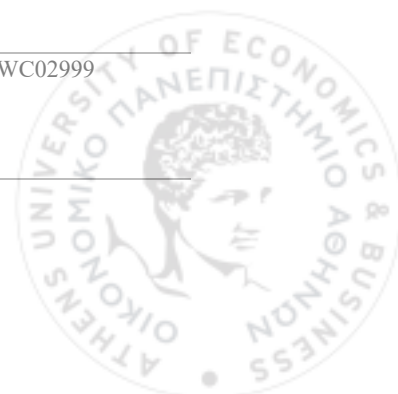


Appendix 1. Variables Definition

Name:	Variable:	Description	Data source of computation (#WC indicates Worldscope data item code)
Accounts Payable	ACPB _{i,t}	The total value of a firm's accounts payable, used to compute Accounts Payable Days	#WC03040
Accounts Payable Days	ACPBD _{i,t}	The average number of days it takes the firm to pay creditors	$365 \times (ACPB_{i,t} / PRCH_{i,t})$
Accounts Receivable	ACRC _{i,t}	The total value of a firm's accounts receivable, used to compute Accounts Receivable Days	#WC02051
Accounts Receivable Days	ACRCDS _{i,t}	The average number of days it takes the firm to collect receivables from customers	$365 \times (ACRC_{i,t} / SL_{i,t})$
Annual Earnings	ANER _{i,t}	The level of annual earnings	#WC01551
Cash Conversion Cycle	CSCNCC _{i,t}	The time taken by the firm to convert investments in inventory and receivables into cash flows	$ACRCDS_{i,t} + INVDS_{i,t} - ACPBD_{i,t}$
Cost of Goods Sold	CSGOSL _{i,t}	The direct costs in the production of goods sold by a company, used to compute inventory holding period	#WC01051
Current Assets	CUAS _{i,t}	The total value of the firm's current assets, used to compute the current ratio	#WC02201
Current Liabilities	CULB _{i,t}	The total value of the firm's current liabilities, used to compute the current ratio	#WC03101
Current Ratio	CRRT _{i,t}	Measures a firm's liquidity	$CUAS_{i,t} / CULB_{i,t}$
Defender	DFND _{i,t}	A dummy variable equal to 1 if the firm is classified as a Defender according to the STRPOS _{i,t} variable, and 0 in any other case	STRPOS _{i,t} score between 0 and 1
Earnings Before Interest, Tax, and Amortization	EBITA _{i,t}	The firm's earnings before interest, tax, and amortization, used to compute return on assets	#WC18198
Employee Number	EMPLNM _{i,t}	Number of employees	#WC07011
Financial Assets	FNAS _{i,t}	The total value of a firm's financial assets, used to compute the ratio of financial assets to total assets	#WC02250 + #WC02256
Financial Assets to Total Assets	$\frac{FNAS_{i,t}}{TTAS_{i,t}}$	Shows the proportion of a firm's total assets invested in financial instruments	$\frac{FNAS_{i,t}}{TTAS_{i,t}}$
Firm Age	FRAG _{i,t}	The number of years since the firm's first trading date	



Firm Size	$SZ_{i,t}$	Typically measured as the natural logarithm of total assets	$\text{Log}(SL_{i,t})$
Inventory	$INV_{i,t}$	The total value of a firm's inventory, used to compute the inventory holding period	#WC02101
Inventory Holding Period	$INVDS_{i,t}$	The average number of days inventory is held before being sold	$365 \times (INV_{i,t} / \text{CSGOSL}_{i,t})$
Leverage	$LVRG_{i,t}$	A firm's total debt relative to its total assets or equity	$TTDB_{i,t} / TTAS_{i,t}$
Net plant, property and equipment	$NPPEQ_{i,t}$	A firm's tangible fixed assets total value minus any accumulated depreciation	#WC02501
Prospector	$PRSP_{i,t}$	A dummy variable equal to 1 if the firm is classified as a Prospector according to the $STRPOS_{i,t}$ variable, and 0 in any other case	$STRPOS_{i,t}$ score between 5 and 6
Purchases	$PRCH_{i,t}$	The total purchases made by the firm, used in the computation of the Accounts Payable Days and the Inventory Holding Period	$\text{CSGOSL}_{i,t} - INV_{i,t} + INV_{i,t-1}$
Research and Development Expenses	$RSDVEX_{i,t}$	Research and development expenses	#WC01201
Return on Assets	$ROA_{i,t}$	The dependent variable of the regression model	#WC08326
Sales	$SL_{i,t}$	The total sales revenue of the firm, used to compute various ratios including sales growth and accounts receivable days	#WC01001
Sales Growth	$SLGR_{i,t}$	Represents the rate of change in a firm's sales over time	$(SL_{i,t} - SL_{i,t-1}) / SL_{i,t-1}$
Selling, General, and Administrative (SG&A) Expenses	$SLGNADEX_{i,t}$	The operating costs of a firm not directly tied to production, including expenses for sales, marketing, management, and general business operations.	#WC01101
Strategic Positioning	$STRPOS_{i,t}$	A variable used to classify firms as either Prospectors (score of 5-6) or Defenders (score of 0-1), based on Bentley et al. (2013)	
Total Assets	$TTAS_{i,t}$	The total value of the firm's assets, used in various calculations including return on assets and leverage	#WC02999



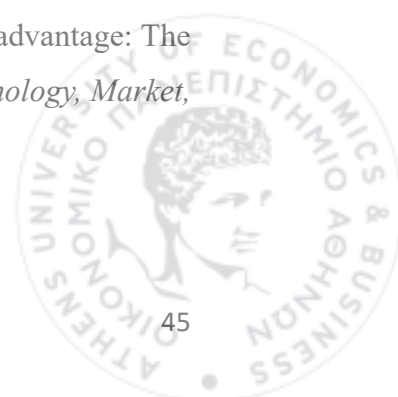
Total debt	$TTDB_{i,t}$	The sum of all the firm's financial obligations, including both short-term liabilities and long-term borrowings	#WC03255
Working Capital Management	$WRCPMN_{i,t}$	The key independent variable of the regression model	$CSCNCC_{i,t}$ or $ACRCDS_{i,t}$ or $ACPBDS_{i,t}$ or $INVDS_{i,t}$





References

- Abuzayed, B. (2012). Working capital management and firms' performance in emerging markets: The case of Jordan. *International Journal of Managerial Finance*, 8(2), 155-179.
- Afrifa, G. A., & Padachi, K. (2016). Working capital level influence on SME profitability. *Journal of Small Business and Enterprise Development*, 23(1), 44-63.
- Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. *Journal of Corporate Finance*, 30, 98-113.
- Anton, S.G., & Nucu, A.E.A. (2022). On the role of institutional factors in shaping working capital management policies: Empirical evidence from European listed firms. *Economic Systems*, 46(2), 1-16.
- Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2012). How does working capital management affect the profitability of Spanish SMEs? *Small Business Economics*, 39(2), 517-529.
- Bentley, K. A., Omer, T. C., & Sharp, N. Y. (2013). Business strategy, financial reporting irregularities, and audit effort. *Contemporary Accounting Research*, 30(2), 780-817.
- Boțoc, C., & Anton, S.G. (2017). Is profitability driven by working capital management? Evidence for high-growth firms from emerging Europe. *Journal of Business Economics and Management*, 18(6), 1135-1155.
- Conant, J. S., Mokwa, M. P., & Varadarajan, P. R. (1990). Strategic types, distinctive marketing competencies and organizational performance: A multiple measures-based study. *Strategic Management Journal*, 11(5), 365-383.
- Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance & Accounting*, 30(3-4), 573-588.
- Farida, I., & Setiawan, D. (2022). Business strategies and competitive advantage: The role of performance and innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(3), 163.
- Grant, R. M. (2010). *Contemporary strategy analysis* (7th ed.). Wiley.



Hambrick, D. C. (1983). Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. *Academy of Management Journal*, 26(1), 5-26.

Hill, M.D., Kelly, G.W., & Highfield, M.J. (2010). Net operating working capital behavior: A first look. *Financial Management*, 39(2), 783-805.

Jose, M.L., Lancaster, C., & Stevens, J.L. (1996). Corporate returns and cash conversion cycles. *Journal of Economics and Finance*, 20(1), 33-46.

Juan García-Teruel, P. J., & Martínez-Solano, P. (2007). Effects of working capital management on SME profitability. *International Journal of Managerial Finance*, 3(2), 164-177.

Knauer, T., & Wöhrmann, A. (2013). Working capital management and firm profitability. *Journal of Management Control*, 24(1), 77-87.

Lyrودي, K., & Lazaridis, J. (2000). The cash conversion cycle and liquidity analysis of the food industry in Greece. Social Science Research Network.

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87.

Miles, R. E., & Snow, C. C. (2003). *Organizational strategy, structure, and process*. Stanford University Press.

Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman, H. J., Jr. (1978). Organizational strategy, structure, and process. *Academy of Management Review*, 3(3), 546-562.

Nazir, M. S., & Afza, T. (2009). Working capital requirements and the determining factors in Pakistan. *IUP Journal of Applied Finance*, 15(4), 28-38.

Ojra, J., Opute, A. P., & Alsolmi, M. M. (2021). Strategic management accounting and performance implications: A literature review and research agenda. *Future Business Journal*, 7(1), 64.

Padachi, K. (2006). Trends in working capital management and its impact on firms' performance: An analysis of Mauritian small manufacturing firms. *International Review of Business Research Papers*, 2(2), 45-58.

Porter, M. E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. Free Press.



Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press.

Raheman, A., & Afza, T. (2010). Working capital management and corporate performance of manufacturing sector in Pakistan. *International Research Journal of Finance and Economics*, 47, 152-158.

Segev, E. (1989). A systematic comparative analysis and synthesis of two business-level strategic typologies. *Strategic Management Journal*, 10, 487-505.

Singh, H. P., Kumar, S., & Colombage, S. (2017). Working capital management and firm profitability: A meta-analysis. *Qualitative Research in Financial Markets*, 9(1), 34-47.

Slater, S. F., Olson, E. M., & Hult, G. T. M. (2006). The moderating influence of strategic orientation on the strategy formation capability–performance relationship. *Strategic Management Journal*, 27(12), 1221-1231.

Doty, D. H., Glick, W. H., & Huber, G. P. (1993). Fit, equifinality, and organizational effectiveness: A test of two configurational theories. *Academy of Management Journal*, 36(6), 1196-1250.

