T.C.
ANKARA YILDIRIM BEYAZIT UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES

THE EFFECT OF WORKING CAPITAL MANAGEMENT ON THE PROFITABILITY OF THE TEXTILE FIRMS: EVIDENCE FROM FRAGILE FIVE COUNTRIES

Ph. D. Thesis

Ayşegül TOY

THE DEPARTMENT OF FINANCE AND BANKING

ANKARA 2022

T.C.
ANKARA YILDIRIM BEYAZIT UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES

THE EFFECT OF WORKING CAPITAL MANAGEMENT ON THE PROFITABILITY OF THE TEXTILE FIRMS: EVIDENCE FROM FRAGILE FIVE COUNTRIES

Ph. D. Thesis

Ayşegül TOY

THE DEPARTMENT OF FINANCE AND BANKING

Supervısor
Prof. Dr. Ayhan KAPUSUZOĞLU

ANKARA 2022

PAGE OF APPROVAL

The thesis prepared by Ayşegül TOY and titled as “The Effect of Working Capital Management on the Profitability of the Textile Firms: Evidence from Fragile Five Countries” is unanimously accepted as a PhD thesis at the Department of Finance and Banking of the Institute of Social Sciences of the Ankara Yildirim Beyazit University, by the following jury.

Juror	Institution	Signature
Prof. Dr. Ayhan KAPUSUZOĞLU		
Accept **X** Rejection		
Prof. Dr. Nildağ Başak CEYLAN		
Accept **X** Rejection		
Prof. Dr. Afşin SAHİN		
Accept **X** Rejection		
Doç. Dr. Ekin TOKAT		
Accept **X** Rejection		
Doç. Dr. Seda EKMEN ÖZÇELİK		
Accept **X** Rejection		

Date of Defence: 21/07/2022

I approve that this thesis satisfies all the requirements to be accepted as a thesis for the degree of doctor of philosophy at the Department of Finance and Banking of the Institute of Social Sciences of the Ankara Yildirim Beyazit University.

Director of the Institute Prof. Dr. Yaşar YİĞİT

PLAGIARISM

I hereby declare that all information in this thesis has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work; otherwise I accept all legal responsibility. (21.07.2022)

Ayşegül TOY

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude and thanks to my supervisor Prof. Dr. Ayhan KAPUSUZOĞLU and Prof. Dr. Nildağ Başak CEYLAN for supporting me in every situation, giving confidence with their presence, and seeing their students not just as students but as colleagues from the very beginning of my doctoral education and thesis period. I also would like to thank Prof. Dr. Afşin ŞAHİN by taking part in my thesis committee and contributing to my studies, Assoc. Prof. Dr. Ekin TOKAT, and Assoc. Prof. Dr. for contributing on my thesis defense.

I am extremely thankful to Mr. Özgür HATİPOĞLU, Research Manager and Strategist of Ak Investment, for his support and efforts during my thesis process, as well as to Assoc. Prof. Dr. Özcan IŞIK who never spared his efforts and ideas in the analysis part of my thesis.

I would also like to thank my mother, Handan DAYI, who has supported me since the beginning of my education life, my brothers Mihrali Muhammed and Ahmet Turan, as well as my younger brother Kürşad Ömer DAYI for his academic support, and my sister Pınar YARIŞ, who has been a great aunt and half-mother to my children.

Lastly, I would like to express my endless thanks and love to my dear husband Emre TOY, who is always my supporter, and to my dear son Ertuğrul and my dear daughter Zeynep Nazlım TOY, who are patiently waiting for my thesis to be finished, for being a part of my life and motivating me.

ABSTRACT

The objective of this study is to examine the impact of working capital variables on financial performance using a sample of companies operating in the textile industry in Brazil, Indonesia, Turkey and India in the Fragile Five grouping.

In this study, the balance sheets and income statements of the textile companies included in the study were used as financial data. These financial data were obtained from textile companies registered in Fragile Five country stock exchanges from Thomson Reuters Eikon database. These countries' stock exchanges are Bovespa for Brazil, Jakarta for Indonesia, BIST for Turkey, BSE and NSI for India. However, Since the database in question for South Africa did not collect sufficient and reliable data on the textile sector, the study included companies from other countries that only had access to their financial data and were listed on stock exchanges.

This study was made using the balance sheets and income statements of textile companies operating in 2010-2020 to eliminate the effects of the 2008 crisis and also because there are companies with missing data. In the first phase, companies with balance sheets and income statements in the working period 2010-2020 were selected, but companies with negative profitability for this working period, with restrictions on the stock market and companies with missing data were excluded from the sample. A total of 185 companies were included in the analysis for the four FFCs. The financial data between these years are the annual data from the companies' financial statements.

The Driscoll-Kraay estimator, which is robust to the problems of unobserved heterogeneity, autocorrelation, heteroscedasticity, and cross-section dependence, is employed in estimating the coefficients of the panel regression models determined in this study. All existing financial performance indicators are disregarded, only ROA and Tobin's Q are used as a basis. Variables such as accounts receivable period, inventory holding period, accounts payable period and cash conversion period, which are commonly used in working capital indicators, are included as independent variables in the regression models. In addition, company-level control variables such as company size, financial leverage, sales growth and liquidity level are included in the regression models.

In the general evaluation of the estimation results of the panel data analysis, it can be found that the impact of working capital management on financial performance differs

significantly depending on the selected performance variable. In addition, it was found that the relationship between working capital variables and financial performance variables tends to change when the main sample is divided into sub-samples. The totality of these results suggests that successful and effective working capital management in the textile sector depends on taking into account differences in economic conditions, differences in capital markets, financial market performance, and daily work habits, and evaluating each element that constitutes working capital separately.

It is expected that this study will contribute to the previous literature as it is the first study to investigate the working capital management of textile companies in the FFCs using panel data regression analysis. It also contributes to the existing knowledge in understanding the relationship between working capital and financial performance by using the most up-to-date data on the companies covered. The results of this study will guide the managers working in the textile industry to develop the right strategies to effectively manage working capital and increase financial performance.

It provides evidence that working capital management policies are associated with higher firm performance and firm value. For this reason, working capital decisions that focus on short-term financing and investment decisions can give firms a competitive advantage, increase profitability and performance, and contribute significantly to the development of the real sector and financial markets. Consequently, efficient working capital management is of great importance not only to company management but also to all stakeholders.

Keywords: Working Capital and Management, Profitability, Firm Performance, Fragile Five, Performance Measurement Criteria, Driscoll-Kraay, Textile.

ÖZET

Bu çalışmanın amacı, Kırılgan Beşli gruplaması içindeki Brezilya, Endonezya, Türkiye ve Hindistan'da tekstil sektöründe faaliyet gösteren firmalardan oluşan bir örneklemle çalışma sermayesi değişkenlerinin finansal performans üzerindeki etkisini incelemektir.

Bu çalışmada çalışmaya dâhil edilen tekstil firmalarının bilanço ve gelir tabloları finansal veri olarak kullanılmıştır. Bu finansal veriler, Thomson Reuters Eikon veri tabanından Kırılgan Beşli ülke borsalarına kayıtlı tekstil firmalarından elde edilmiştir. Bu ülke borsaları Brezilya için Bovespa, Endonezya için Jakarta, Türkiye için BIST, Hindistan için BSE ve NSI dır. Ancak Güney Afrika için söz konusu veri tabanında tekstil sektörü ile ilgili yeterli ve güvenli veri toplanamadığından veri setinden çıkarılarak diğer ülkelerden sadece finansal verilerine ulaşabilen, borsalara kote olan firmalar arastirma kapsamına alınmıştır.

Bu çalışma 2008 yılı krizinin etkisini ortadan kaldırmak için ve aynı zamanda eksik verileri olan firmalar olduğu için 2010-2020 yılları boyunca faaliyet gösteren tekstil firmalarının bilanço ve gelir tablolarından elde edilmiştir. İlk aşamada, 2010-2020 çalışma döneminde bilanço ve gelir tablosu mevcut olan firmalar seçilmiş fakat bu çalışma dönemi için kârlılığı negatif olan, borsada kısıtlanmış olan firmalar ve verileri eksik olan firmalar örneklemden çıkarılmıştır. Toplamda dört Kırılgan Beşli ülkesi için 185 firma örneklem olarak analize dâhil edilmiştir. Bu yıllar arasındaki finansal veriler firmaların mali tablolarına ilişkin yıllık verilerdir.

Bu çalışmada belirlenen panel regresyon modellerinin katsayılarının tahmininde, gözlemlenmemiş heterojenlik, otokorelasyon, değişen varyans ve yatay kesit bağımlılığı problemlerine dayanıklı olan Driscoll-Kraay tahmincisi kullanılmıştır. Finansal performans için var olan tüm performans göstergeleri dâhil edilmemiş, yalnızca ROA ve Tobin Q esas alınmıştır. Çalışma sermayesi göstergesinde sıklıkla kullanılan alacak tahsil süresi, stok dönüşüm süresi, borç ödeme süresi ve nakit dönüş süresi gibi değişkenler bağımsız değişkenler olarak regresyon modellerine dâhil edilmiştir. Ayrıca firma büyüklüğü, finansal kaldıraç, satış büyümesi ve likidite düzeyi gibi firma düzeyindeki kontrol değişkenleri de regresyon modellerine dâhil edilmiştir.

Panel veri analizi tahmin sonuçları genel olarak değerlendirildiğinde, çalışma sermayesi yönetiminin finansal performans üzerindeki etkisinin seçilen performans değişkenine göre önemli ölçüde farklılaştığı ifade edilebilir. Ayrıca ana örneklem alt örneklere ayrıldığında çalışma sermayesi değişkenleri ile finansal performans değişkenleri arasındaki bağlantının değişme eğiliminde olduğu gözlemlenmiştir. Tüm bu bulgular birlikte değerlendirildiğinde tekstil sektöründe başarılı ve etkin bir çalışma sermayesi yönetiminin hem ülkeler arasındaki ekonomik koşullar, sermaye piyasaları farklılıklar, finansal piyasaların gelişimi hem de günlük çalışma alışkanlıklar açısından farklıların dikkate alınmasına ve çalışma sermayesini oluşturan her bir unsurun ayrı ayrı değerlendirilmesine bağlı olduğu sonucuna varılabilir.

Bu çalışmanın Kırılgan Beşli ülkelerdeki tekstil firmalarının çalışma sermayesi yönetimini panel veri regresyon analizi kullanarak araştıran ilk çalışma olması bakımından geçmiş literatüre katkı sağlaması beklenmektedir. Ayrıca ele alınan firmalara ilişkin en güncel veriler kullanarak çalışma sermayesi ve finansal performans arasındaki ilişkinin anlaşılmasında mevcut bilgilere katkıda bulunmaktadır. Bu çalışmanın sonuçları, tekstil endüstrisinde çalışan yöneticilere, çalışma sermayesini etkin bir şekilde yönetmek ve finansal performansı artırmak için doğru stratejiler geliştirme konusunda rehberlik edecektir.

Çalışma sermayesi yönetimi politikalarının daha yüksek firma performansı ve firma değeri ile ilişkili olduğuna dair kanıtlar sunmaktadır. Bu nedenle kısa vadeli finansman ve yatırım kararlarına odaklanan işletme sermayesi kararları, sirketlere rekabet avantajı sağlayabilir, kârlılık ve performansı artırabilir, reel sektör ve finansal piyasaların gelişimine önemli katkılar sağlayabilir. Sonuç olarak, verimli bir işletme sermayesi yönetimi, sadece firmanın yönetimi için değil, tüm paydaşlar için büyük önem taşımaktadır.

Anahtar Kelimeler: Çalışma Sermayesi ve Yönetimi, Kârlılık, Firma Performans, Kırılgan Beşli, Performans Ölçüm Kriterleri, Driscoll-Kraay, Tekstil.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AGR : Actual Growth Rate

AIP : Agressive Investment Policy

API : Indonesian Textile Association

APP : Accounts Payable Period

ARP : Accounts Receivable Period

ATC : The Agreement on Textiles and Clothing

BIST : Borsa Istanbul

BSE : Bombay Stock Excange

BV : Book Value

Cc : Credit Term given to customers

CCC : Cash Conversion Cycle

Cd : Daily cost amount

CD : Cross Section Dependence

CIP : Conservative Investment Policy

COGS : Cost of Goods Sold

CR : Current ratio

Cs : Credit term given by sellers

DK : Driscoll-Kraay

DSI : Days Sales of Inventory

E : Earnings

Ed : Daily raw material and equipment's the amount of expense

EPS : Earnings Per Share

EU : European Union

EUROTEX : European Apparel and Textile Confederation

EVA : Economic Value Added

EWC : Extraordinary Working Capital

FED : The United States Federal Reserve

FEs : Fixed Effects

FFCs : Fragile Five Countries

G20 : Group of 20

GDP : Gross Domestic Product

GOP : Gross operating profit

GRO : Growth

GWC : Gross Working Capital

I : Amount of Stock

IBEF : India Brand Equity Foundation

IHP : Inventory Holding Period

LEV : Leverage

Max : Maximum

MIP : Moderate Investment Policy

Min : Minunum

MV : Market Value

MVA : Market Value Added

N : Number

NOP : Net operating profit

NPV : Net Present Value

NSI : National Stock Exchange

NWC : Net Working Capital

Oa : Annual Overheads

P : Price

P/E : Price-to-Earnings Ratio

Pg : Gross Profit Margin on Sales

POLS : Pooled Ordinary Least Squares

PWC : Permanent Working Capital

REs : Random Effects

ROA : Return on Asset

ROCE : Return On Capital Employed

ROE : Return on Equity

ROIC : Return on Invested Capital

S : Annual Sales Amount

SD : Standart Deviation

SGR : Sustainable Growth Rate

SIZ : Firm size

SWC : Seasonal Working Capital

TQ : Tobin’s Q

TWC : Temporary Working Capital

WC : Working Capital

WCM : Working Capital Management

WCN : Working Capital Need

WCR : Working Capital Requirement

WIP : Work in Process

WTO : The World Trade Organization

1. INTRODUCTION

1.1. Background of the Research

Textile, which has an important role in economic development in the world and in Turkey with its contribution to export, production, and employment and is considered a locomotive sector, is one of the oldest manufacturing industry branches. According to the data gathered by the research, it has been observed that textile has an important place in production, export and employment from past to present among other manufacturing industry branches in developing countries "Brazil, Indonesia, Turkey, India, and South Africa", which are called "The Fragile Five".

Textile was one of the first industries to be industrialized. Today, this sector is a capital-intensive sector classified into four main sections: product, machinery, chemical fiber, dyestuff, and chemical substance manufacturing. The ready-made clothing sector, on the other hand, which includes all types of mass-produced clothing from fabrics to specific standards, is one of the sectors that relies on labor power. Fiber and yarn manufacturing is in the textile sector, while mass-produced clothing from all kinds of fabrics is in the ready-made clothing sector.

Today, the textile industry is not only an industry that has cheap labor and labor-intensive capital or is specific to less developed countries that have limited capital and produces simple products, but also produce high-value-added fashion-brand products and technical textiles. In this regard, the Fragile Five countries (FFCs) have gained a place in the world based on cost, price policy, and contract manufacturing due to low-cost labor in the textile sector, but they have to create their own brands and turn to textile products with high added value, even though it is a long process and an expensive investment in the ready-made clothing sector. The development of the sector is also in this direction. Although the sector has its own production chain, it is also in contact with different sectors such as automotive, medicine, and construction.

Working Capital Management (WCM) has a great importance in providing short-term financing resources for textile companies like all companies (Akguc, 2013a, p. 204). In this context, firms focus on WCM to achieve their goals such as being able to continue their activities, reaching financial profit, etc.

When we divide financing decisions into short-term financing decisions and long-term financing decisions, WCM is at the center of short-term financing decisions and is of vital importance for companies. In this context, a significant part of the decisions taken by companies regarding financial management and the policies they set consist of those related to WCM.

Companies gives priority to an effective WCM in order to achieve its goals such as increasing its market value, continuing its activities and achieving financial profit (Hingurala Arachchi , Perera & Vijayakumaran, 2017). Managers must devote a significant amount of time to WCM, one of the most important components of business finance, which has a large share and function in the success/failure of their companies (Chambers & Cifter, 2022). In fact, it can be stated that WCM indicates companies' focus on the decisions they take regarding the management of the investments they will make according to non-long-term financing, in other words, short-term monetary resources and working areas (Banos-Caballero, Garcia-Teruel & Martinez-Solano, 2010). The cash held by the companies in their safes, the securities that can be converted into cash at any time, the trade receivables, etc., obtained as a result of the sales, and the current assets they hold are evaluated within this scope. It is aimed to keep the needs at a minimum and to maximize profit and profitability by managing and using these assets in the most convenient way (Ganesan, 2007).

It is seen that the success of the companies depends on the management performance and effectiveness in the WCM (Filbeck & Krueger, 2005). An effective working capital management will increase the company's stock value by providing cash flow to the company and reducing the need for financing (Aktas , Croci & Petmezas, 2015). If the WC is not managed in a planned, efficient, correct, and effective manner, it can cause companies to go bankrupt, lose investment opportunities that may arise, and experience liquidity (cash) problems in the short term, even in cases of profitability (Samiloglu & Demirgunes, 2008).

According to Brealey, Myers, and Marcus (2019), a firm can take advantage of valuable policy, and only fail and go bankrupt if it fails to demonstrate effective WCM."

Short-term planning may be incomplete because firms do not bother to provide cash to pay because of this, short-term financial decisions are easier for managers than long-term financial decisions, but they are never less important (Brealey, Myers & Marcus, 2019, p. 551).

In the most general sense, the lack of WC, which expresses the amount of capital a company attributes to the economic values of liquidity during an accounting period with a maturity of one year or less, prevents a company from working at full capacity and producing consistently, fulfilling customer demands and orders as they want, and reaching the desired sales level (Sariaslan & Erol, 2008, p. 360). In this context, it can be assumed that WC has an impact on the success and profitability of the company.

1.2. Explanation of Research Questions

As the US Federal Reserve (FED or FRS) reduced and stopped its bond purchases in 2013-2014, developing countries, FFCs, started to have difficulties in financing their current account deficits. It can be seen that the decision of FED is effective in the fragile economies of these countries due to fiscal liberalization, imbalances in the overall economy, and the weakness of their financial position. In addition, the dependence of these countries on foreign capital flows, the need for more external financing, and political instability increase their economic fragility.

According to the FED statement, the countries whose currencies have lost the most value among the developing countries are the FFCs. The main reasons why these five countries are included in the group known as the FFCs are as follows: imports have higher rates than exports; that is, current account deficit, rising prices and depreciation of currency, high inflation figures and falling growth performance.

In this study, the relationship between the working capital and profitability of the listed textile companies in the FFCs will be examined. The aim of this study is also to present a frequently highlighted issue in the international literature among the FFCs and to contribute to the relevant literature. In this context, the listed textile companies in Turkey, Indonesia, India, and Brazil, which belong to the Fragile Five group, are discussed in the study.

To facilitate access to financial data, only companies listed on the stock exchanges of these countries were included in the study. According to the data obtained from the Thomson Reuters Eikon database, the number of companies listed on the stock exchanges in the countries is shown in Table 1.1.:

Table 1.1. Number of companies listed on stock exchanges in countries

	Number of Textile Firms Listed on the Stock Exchange	Number of Companies Eligible for Analysis
Turkey	29	17
India	545	145
Indonesia	24	11
Brazil	16	12
Total	614	185

In addition, this study highlights working capital and its elements and characteristics, and WC types and factors affecting WC needs are explained based on the literature. In addition, WC financing is discussed and the impact of WCM on business performance is highlighted. In this context, the management of cash, receivables, inventories, and short-term debt, as well as concepts of profitability and sustainable growth, are explained in detail. The use of metrics in the context of WCM is discussed in detail, focusing on liquidity, financial structure, operating and profitability metrics, and market performance metrics. In this context, an attempt is made to show the relationship between them.

Finally, the impact on profitability of WC textile companies in the FFCs is examined and analyzed using the Return on Asset (ROA) and Tobin's Q criteria with the data obtained.

1.3. Research Questions

In this study, fundamentally, answers to the question sentence "Is there a relationship between working capital management and firm profitability in listed textile companies in v, according to ROA and Tobin's Q performance criteria?" will be sought. In addition, the following sub-problems will be addressed:

1. Do the results obtained by the firm's ROA profitability measure differ between the FFCs?

2. Do the results obtained by the firms' Tobin’s Q performance measure differ between the FFCs?

3. What are the components of the cash conversion cycle, average inventory conversion period, average receivables collection period and average payment period of textile companies on the basis of countries?

4. Do the cash conversion cycle and its elements differ between the FFCs?

5. When examining the relationship between WCM and firm performance, will different results be observed between ROA and Tobin’s Q performance measures?

1.4. Purpose and Importance of the Research

It is obvious that WCM is of great importance not only for the management of the company but also for all stakeholders. In support of this, many studies in the literature provide evidence that efficient and effective WCM policies are associated with higher firm performance and firm value. In this context, the results of this study, which empirically investigates whether there is a relationship between WC variables and financial performance measures, have important implications for all stakeholders of the textile industry, especially FFCs, and academics working in this field.

When the estimation results of the analysis carried out in the study are evaluated in general, it can be stated that the effect of WCM on financial performance differs significantly according to the selected performance variable. It has been observed that a successful and effective WCM in the textile sector can only be achieved when conditions such as economic conditions and capital markets in the countries are taken into account, and it is necessary to follow appropriate policies and to evaluate the WC components separately in this process.

2. LITERATURE REVIEW

In this part of the study, a literature review will be carried out on the conceptual dimension of working capital and other issues discussed in the study.

2.1. The Summary of the Literature on the Relationship Between Working Capital Management and Financial Performance

The summary of the literature on the relationship between working capital management and financial performance is summarized in Table 2.1. When the previous studies focusing on the association between working capital variables and financial performance are examined, it has been observed that various variables are employed to measure working capital elements. For example, researchers such as Deloof (2003), Lazaridis & Tryfonidis (2006), García-Teruel & Martínez-Solano (2007), Mathuva (2010), Sharma & Kumar (2011), and Abuzayed (2012) have employed ARP, IHP, APP, and CCC variables to represent working capital in their studies. However, researchers such as Mun & Jang (2015), Saglam & Karaca (2015), Boțoc & Anton (2017), Anton & Afloarei Nucu (2020), Osama & Al-Gazzar (2021), Chambers & Cifter (2022), and Jaworski & Czerwonka (2022) have utilized the working capital ratio in their studies to measure working capital.

The literature offers five groups of conflicting results concerning the influence of working capital variables on financial performance: (i) working capital variables have a negative influence on financial performance, (ii) working capital variables have a positive impact on financial performance, (iii) there exist mixed results between working capital components and financial performance measures, (iv) working capital variables has a neutral influence on financial performance, and (v) there exists a non-linear association between working capital variables and financial performance.

In detail, when examining the first group of studies suggesting a negative relationship between working capital variables and financial performance, Yucel & Kurt (2002), Nobanee, Abdullatif & AlHajjar (2011), Ebben & Johnson (2011), Ogundipe, Idowu & Ogundipe (2012), Enqvist, Graham & Nikkinen (2014), Yazdanfar & Ohman (2014), Sensini (2020), Lin & Wang (2021), and Jaworski & Czerwonka (2022) determined that the effect of CCC on financial performance variables is negative. Also, Deloof (2003), García-Teruel & Martínez-Solano (2007), Mansoori & Muhammad (2012), Aygun (2012), Ukaegbu (2014), Pais & Gama, (2015), Hussain, Nguyen, Nguyen, Nguyen & Nguyen (2020), Gołaś (2020), on the other hand, reported that there is a negative correlation between the CCC and the elements that make up the CCC and performance indicators.

The studies in the second group, which argue that working capital variables have a positive effect on financial performance, are as follows; Alvarez, Sensini & Vazquez (2021) have provided empirical evidence that there is a positive relationship between financial performance as measured by ROA and ROE and all working capital components for Argentine manufacturing firms. Also, Saglam & Karaca (2015) have reported that financial performance indicators for Turkish textile companies are positively affected by the working capital ratio. Similarly, Amponsah-Kwatiah & Asiamah (2021) have revealed that working capital components have positive effects on both ROA and ROE.

Lazaridis & Tryfonidis (2006), Mathuva (2010), Sharma & Kumar (2011), Abuzayed (2012), Napompech (2012), Vahid, Elham, Khosroshahi Mohsen & Mohammadreza (2012), Ademola (2014), Samiloglu & Akgun (2016), Keskin & Gokalp (2016), Kayani, De Silva & Gan (2019), Braimah, Mu, Quaye & Ibrahim (2021), and Durdu & Aydin (2021) are among the third group of studies suggesting mixed results between working capital components and financial performance measures.

The studies conducted by Atmaca (2016) and Ahmed, Mahtab, Islam & Abdullah (2017) can be given as an example of the fourth group of studies that determined that there is no linkage between working capital variables and financial performance.

As the last group works, the findings regarding the existence of a nonlinear relationship between working capital variables and financial performance have been reported in empirical studies conducted by Afrifa, Tauringana & Tingbani (2014), Mun & Jang (2015), Boțoc & Anton (2017), Singhania & Mehta, 2017), Anton & Afloarei Nucu (2020), Prempeh & Peprah-Amankona (2020), Ahangar (2021), Akbar, Akbar & Draz (2021), Chambers & Cifter (2022), and Jaworski & Czerwonka (2022).

Table 2.1. The summary of the literature on research topic

Author(s)	**Sample and Period**	**Method**	**Performance Indicator**	**The impact of WCM**	**The impact of WCM component s**
Abuzayed (2012)	52 Jordanian firms/2000-2008	Static and dynamic panel regression	GOP/Tobin's Q	CCC(Ø)/ CCC (Ø)	ARP(+)/ ARP (Ø) IHP (+)/ IHP (Ø)

					APP (-)/ APP (+)
Ademola (2014)	12 Nigerian food and beverages manufacturing firms/2002-2011	Multiple Regression Analysis	NOP	CCC (Ø)	ARP (-) IHP (Ø) APP (Ø)
Afrifa et al. (2014)	141 small and medium British firms/2007-2014	Random effects panel data regression	Tobin's Q	CCC (+) CCC^2 (-)	ARP (-) ARP^2 (+) IHP (-) IHP^2 (+) APP (-) APP^2 (+)
Ahangar (2021)	2122 Indian SMEs/2006–2017	Dynamic panel regression	ROA/GOP	CCC (+) CCC^2 (-)	ARP (-) ARP^2 (+) IHP (-) IHP^2 (+) APP (-) APP^2 (+)
Ahmed et al. (2017)	22 Bangladeshi textile firms/2007-2014	Logistic regression	ROA ROE	CCC (Ø)	
Akbar et al. (2021)	26 Pakistani companies/2002–2013	Dynamic panel regression	Tobin's Q/ROE	CCC (+) CCC^2 (-)	The impact of WCM elements on performance changes before, during and after the global financial crisis.
Alvarez et al. (2021)	177 Argentine SMEs/2016-2018	Fixed effects panel data regression	ROA/ROE	CCC (+)	ARP (+) IHP (+) APP (+)
Amponsah-Kwatiah & Asiamah (2021)	20 Ghanaian manufacturing firms/2015-2019	Fixed effects panel data regression	ROA/ROE	CCC (+)	ARP (+) IHP (+) APP (+)
Anton & Afloarei Nucu (2020)	719 Polish firms/2007–2016	Panel-Corrected Standard Errors (PCSE)	ROA/ Operating ROA	Working capital ratio (-) Working capital $ratio^2$ (+)	
Atmaca (2016)	24 companies operating in BIST chemical, plastic and rubber sector/2009-2015	Random effects panel regression	ROA ROE	CCC (Ø)	ARP (Ø) IHP (Ø) APP (Ø)

Aygun (2012)	107 Turkish manufacturing firms/2000-2009	Regression analysis	ROA	CCC (-)	ARP (-) IHP (-) APP (-)
Boțoc & Anton (2017)	937 firms from 13 European countries/2006–2015	Static and dynamic panel regression and panel quantile regression	ROA	Working capital ratio (+) Working capital ratio^2 (-) CCC (+) CCC^2 (-)	
Braimah et al. (2021)	366 Ghanaian SMEs/ 2007-2016	Dynamic panel regression	GOP/NOP/ROA	CCC (-)	ARP (-) ARP^2 (+) IHP (-) APP (+)
Chambers & Cifter (2022)	1156 tourism firms from 33 countries/2004-2019	Dynamic panel regression	ROA/ROE	Working capital ratio (+) Working capital ratio^2 (-)	
Dalci, Tanova, Ozyapici & Bein (2019)	285 German firms/2006-2013	Static and dynamic panel regression	ROA	CCC (-), the effect of CCC on ROA becomes bigger for smaller firms.	
Deloof (2003)	1,009 large Belgian firms/1992–1996	Panel fixed effects and OLS	ROA	CCC (-)	ARP (-) IHP (-) APP (-)
Durdu & Aydin (2021)	BIST food, beverage and tobacco sector/2005-2017	Fixed effects panel regression	Gross sales profit	CCC (-)	ARP (∅) IHP (-) APP (∅)
Ebben & Johnson (2011)	833 small U.S. retail firms and 879 small U.S. manufacturing firms/2002-2004	Multiple regression analysis	Return on invested capital (ROIC)	CCC (-)	
Egolum & Urom (2021)	72 listed non-financial firms in Nigeria/2010-2019	Static panel regression	Enterprise value added	CCC (-)	
Enqvist et al. (2014)	Finnish listed companies/1990-2008	Panel OLS	ROA/GOP	CCC (-)	
García-Teruel & Martínez-	8872 Spanish SMEs the period /1996-2002	Fixed effects panel regression	ROA	CCC (-)	ARP (-) IHP (-) APP (-)

Solano (2007)					
Gołaś (2020)	98 Polish milk processing firms/2007-2016	Dynamic panel regression methods	ROA	CCC (-)	ARP (-) IHP (-) APP (-)
Hingurala et al. (2017)	44 companies from Sri Lanka/2011-2015	Fixed effects panel regression	Tobin's Q	CCC (-)	ARP (-) IHP (-) APP (∅)
Hussain et al. (2020)	119 non-financial Firms in Vietnam/2010-2018	OLS Fixed effects regression	ROA/Tobin's Q	CCC (-)	ARP (-) IHP (-) APP (-)
Hutomo, Nurmanit & Leon (2022)	17 food and beverages firms listed on the Indonesia Stock Exchange	Multiple Regression Analysis	Tobin's Q	CCC (-)	ARP (+) IHP (+) APP (-)
Ibrahim & Dengel (2021)	8 oil and gas firms listed on the Nigerian Stock Exchange/2006-2019	Static panel regressions	Tobin's Q and Share price	CCC (-)	
Iqbal, Khan & Khan (2022)	Pakistani textile firms/2012-2017	OLS	ROA/ROE/Tobin's Q	CCC (∅)	
Jaworski & Czerwonka (2022)	326 Polish companies/1998-2016	Fixed and random effects panel data regression	ROA	CCC (-) Working capital ratio (+) Working capital ratio^2 (-)	
Kayani et al. (2019)	4307 firms /2007–2016	Static and dynamic panel regression	ROA	CCC (-)	ARP (-) IHP (-) APP (∅)
Keskin & Gokalp (2016)	17 firms operating in the BIST food and beverage sector/2009-2013	Random effects panel regression	ROA	CCC (∅)	ARP (-) IHP (∅) APP (∅)
Lazaridis & Tryfonidis (2006)	131 Greek firms/2001-2004	Regression analysis	Gross operating profit (GOP)	CCC (-)	ARP (-) IHP (∅) APP (+)
Lin & Wang (2021)	3447 Chinese firms/2008-2019	Fixed effects panel data regression	ROA	CCC (-), The negative link between	

				CCC and ROA becomes stronger as firm size decreases.	
Mansoori & Muhammad (2012)	92 Singaporean firms/2004-2011	Pooled OLS and Fixed Effects estimation	ROA	CCC (-)	ARP (-) IHP (-) APP (-)
Mathuva (2010)	30 Kenyan firms/1993-2008	Pooled OLS and Fixed effects panel regression	Net operating profit (NOP)	CCC (-)	ARP (-) IHP (+) APP (+)
Mohamad (2018)	36 Malaysia's government linked firms/2000-2016	Static panel regressions	Tobin's Q	CCC (-)	
Mun & Jang (2015)	298 American restaurant firms /1963–2012	Static and dynamic panel regression	ROA	Working capital ratio (+) Working capital ratio^2 (-)	
Napompech (2012)	255 firms operating in Thailand/2007-2009	Regression analysis	GOP	CCC (-)	ARP (-) IHP (-) APP (Ø)
Nobanee et al. (2011)	2318 Japanese firms/1990-2004	dynamic panel regression	Return on investment	CCC (-)	
Obeng, Enos & Yensu (2021)	19 Ghanaian listed firms/2009 -2016	Dynamic panel regression	Tobin's Q/ ROA	CCC (Ø)	
Ogundipe et al. (2012)	54 Nigerian firms/1995-2009	Regression analysis	ROA Tobin's Q	CCC (-)	
Osama & Al-Gazzar (2021)	134 firms from 12 countries in the MENA region/2013-2019	Dynamic panel regression	Operating ROA	Working capital ratio (+) Working capital ratio^2 (-)	
Pais & Gama, (2015)	6063 small and medium-sized Portuguese firms/2002-2009	Fixed effects panel regression	ROA/ROIC	CCC (-)	ARP (-) IHP (-) APP (-)
Perera & Priyashantha (2018)	50 firms listed on the Colombo Stock Exchange/2010–2015	Static panel regressions	Tobin's Q	CCC (+)	ARP (Ø) IHP (+) APP (+)

Prempeh & Peprah-Amankona (2020)	11 Ghanaian manufacturing firms/2011-2017	Dynamic panel regression	ROA	CCC (+) CCC^2 (-)	
Saglam & Karaca (2015)	17 firms operating in the BIST textile sector/2000-2012	Fixed effects panel regression	ROA ROE Market to book value ratio	Working capital ratio (+)	
Samiloglu & Akgun (2016)	120 Turkish manufacturing firms/2003-2012	Multiple linear regression	ROA	CCC (∅)	ARP (-) IHP (∅) APP (-)
Sensini (2020)	112 Italian SMEs/2010-2016	Ordinary least squares	Gross operating profit margin	CCC (-)	
Sharma & Kumar (2011)	263 non-financial Indian firms/ 2000-2008	Polled OLS regression	ROA	CCC (∅)	ARP (+) IHP (∅) APP (∅)
Sim (2021)	24 construction firms listed on Bursa Malaysia Stock Exchange/ 2007-2016	Static and Dynamic panel regression	Tobin's Q	CCC (+) CCC^2 (+)	
Singh (2021)	23 non - financial firms/2001-2018	Fixed and random effects panel data regression	ROA	CCC (-)	ARP (-) IHP (-) APP (∅)
Singhania & Mehta, 2017)	1743 firms from 14 countries/2004-2014	dynamic panel regression	ROA	CCC (-) and CCC^2 (+) for China, Pakistan, Hong Kong, Thailand, South Korea, and Bangladesh . CCC (+) and CCC^2 (-) for India, Vietnam, Malaysia, Taiwan, Indonesia, Singapore, Sri Lanka, and Japan	
Turan & Bilgin (2021)	2012-2018	Dynamic panel regression	Firm value	Net Working Capital Ratio (+)	

				CCC(∅)	
Ukaegbu (2014)	102 manufacturing firms in Egypt, Kenya, Nigeria and South Africa./2005-2009	Fixed effects panel data regression	GOP	CCC (-)	ARP (-) IHP (-) APP (-)
Vahid et al. (2012)	50 Iranian medicine and cement firms/2006-2009	Multiple regression analysis	NOP	CCC (∅)	ARP (-) IHP (∅) APP (∅)
Yazdanfar & Ohman (2014)	13797 Swedish SMEs/2008-2011	Seemingly unrelated regression	ROA	CCC (-)	
Yucel & Kurt (2002)	167 Turkish manufacturing firms/1995-2000	Multiple Regression Analysis	Return On Assets (ROA)/ Return On Equity (ROE)	CCC (-)	

Note: (+), (-), and (∅) indicate that there is a positive association, a negative association and no association between the working capital variables and financial performance variables, respectively.

3. TEXTILE AND APPAREL INDUSTRY

3.1. Development and Production Processes of the Textile and Apparel Industry.

Although textile, a manufacturing industry branch, emerged in England with the industrial revolution, it has an old history dating back to 5,000 BC. It emerged in order to meet the most basic needs of people, such as covering and protection, and within this scope, textile products were produced with yarn production, weaving, and sewing methods (Esi, 2017). The textile industry is one of the oldest, largest, and most globalized industries in the world today (Gereffi, 2002).

Textile is an industry branch with various production stages, including the production of materials made from fiber and yarn, their processing and turning them into products (Turkey Bilimsel ve Teknolojik Arastirma Kurumu (TUBITAK), 2003). Products such as fiber, yarn, and fabrics are produced in the intermediate input, which is the next stage of this production process, starting with the supply of raw material procurement. This process is followed by dyeing and finishing stages as the next intermediate stage. We encounter clothing items, home textile products, carpet and technical textile products, etc. as the final product. The main input of the ready-made clothing industry is fabrics. Various clothing items are produced from fabrics (T.C. Cevre, Sehircilik ve Iklim Degisikligi Bakanligi Tekstil Uretimi, Sektorel Uygulama Klavuzu).

The basic production process in the textile sector is shown in Figure 1.1, which was created in the light of the information stated in Ongut (2007) and Uyanik & Ogulata (2013):

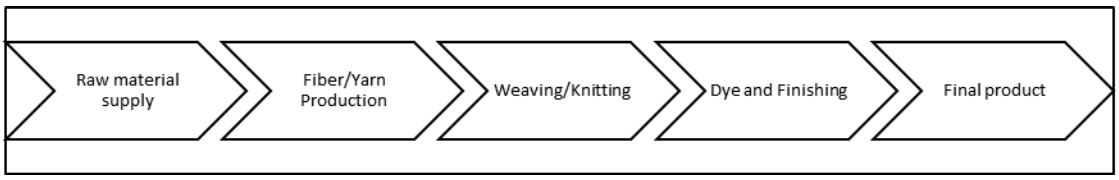

Figure 3.1. Production process in the textile and apparel industry.

As seen in Figure 3.1, in the textile and ready-made clothing industry, the production process consists of turning the materials obtained from fiber and yarn into a useful article or product by passing through different processing steps.

With the industrial revolution, the emergence of new machines and inventions and their use in the textile industry, textile products that were previously knitted and woven with hand-made yarns have been replaced by mass-produced products with a wide range (Wilson, 2001, p. 1). Textile production, which is a labor-intensive industry with its sub-sectors, continued its development in the following years in parallel with the development of the fashion sector with the development of textile machinery, production of synthetic fibers, chemistry applications in textiles (Olgun & Turan, 2022).

The textile and clothing industries employ millions of people, mostly women, and have become a unique industry in the global economy for three reasons. First, the most developed countries have given the greatest weight to this sector in development and contributed to their development. They are giving weight to this sector in order to reach the level of development in less developed countries. Second, entry into this industry is easy due to costs, unskilled labor, etc. Third, it is the most protected and subsidized industry among all manufacturing industries in the global economy in developed and developing countries (Adhikari & Yamamoto, 2007).

Nowadays, production processes are being reshaped depending on the technological developments in the world and consumer preferences, as well as maintaining the importance of intensive workforce in textile. Industrie 4.0, the application of the internet in industry (Muller, Buliga & Voigt, 2018), is a strategic initiative to remain competitive thanks to technological innovation initiated by the German government in November 2011, and included in the High-Tech Strategy 2020 Action Plan. Within the scope of the plan, in addition to low-cost production with smart machines, storage systems, production facilities, customer needs will be met in the fastest way and value will be created through unique business models (Kagermann, Wahlster & Helbig, 2013). It is predicted that the developments especially experienced with Industry 4.0 will affect this sector deeply.

Today, textile industry production is mostly carried out by developing countries as it benefits the country's economy due to its relative advantages in production costs, increasing export revenues, creating employment and improving the living standard of its citizens (Saha, Dey & Papagiannaki, 2021). In recent years, the transfer of production in the textile industry to developing countries has led to an increase in the international trade flows of this sector, the formation of new export leaders in production, and thus changes in the distribution of exports and imports (Corovic, Jovanovic & Ristic, 2013). The production of technical textiles and products with high added value is generally carried out by developed countries. Because the developments in the field of technology directly affect the branch of this industry, and the competitive power of countries or firms is determined by the advanced technology they have. Developed countries that have advanced technology are able to manufacture functional and high-added-value products with technical textile.

3.2. Elements Determining Textile and Apparel Consumption

The success of the firms is closely related to customer satisfaction in the global textile and apparel markets, where there is high competition, and social and aesthetic elements are increasingly dominant. To do this, they need to know their target customers closely, meet their wishes, preferences, and needs, and design new products accordingly There are many factors that affect the purchasing preferences of customers, but customers generally want the products they are going to buy to meet their needs, be fashionable and have an aesthetic aspect (Wilson, 2001, p. 17-80).

The factors that determine the purchasing preferences of the customers in the sector and thus their consumption can be listed as product quality, cost advantage and related product price, origin of the product, marketing strategies of the product, income level of customers, demographic structure of the countries forming the market, climate and geographical characteristics, suitability for design and fashion, product brand, standards and environmental friendliness and functionality. Although the prices increase in the garment industry products, decrease in demand does not occur much; that is, the decrease in consumption rates does not happen at high levels (Ongut, 2007, p. 36). In addition, as in every sector, it is extremely important for companies in the textile sector to maintain their presence and gain a customer reputation for sustainable growth. Farhan, Hussain, Khan, Tahir & Bhatti (2020) stated in their study that companies that provide customer satisfaction will gain a corporate reputation.

Businesses need to manage customer satisfaction effectively with reliable satisfaction measurements, because when a customer is a permanent customer for a company, it means both continuous sales for the company and directing the customer to the people around them. Marketing is important in every sector and companies that provide customer satisfaction will be able to achieve success in the sector (Singh, Aggarwal & Jhamb, 2017).

There must be a certain balance to produce products that are both in high quality and cost-efficient. The main goal is to raise the profit by producing low-cost products. However, it is not possible to achieve a long-term success if the firms compromise on the quality of the products. In both ways, the success of companies in keeping costs low will affect their success and profitability in reaching their targets (Atilgan, 2006). Because the cost level of the firms is the basis determinant of the competitive power advantage of the industry in a country (Iversen, Asche, Hermansen & Nystøyl, 2020).

Product design and product development for the targeted consumer group is important as well as a necessity for companies to continue their activities and have competitive power in today's competitive market conditions (Kahveci & Bas, 2015).

R&D studies are important for companies because competitive market conditions lead them to innovative work (Barutcugil, 2009, p. 14). At this point, consumer preferences are the main factors that determine which products and how they will be manufactured. The correct reading of customer preferences and the realization of the production of goods according to these preferences are the main conditions for gaining competitive power in the textile sector. In addition to this, the design of the products must be aesthetic, authentic, and functional. The color of the product primarily affects the aesthetic taste of the customers in a textile product. Later, customers pay attention to the shape and pattern of the product they like. They decide to buy the product based on these three factors (Atilgan, 2006). Customer-oriented companies primarily aim to survive and reach their goals with high-quality products. In this respect, customer satisfaction is a priority (Haghshenas & Abedi, 2013).

Today, it is seen that fashion has a more decisive place in our lives and even has a supporting function for socio-economic development, especially in developing countries (Khurana, 2022). Clothing products have undertaken the function of meeting people's needs as well as adorning oneself out and showing social status. Therefore, it can be said that the suitability of products for fashion, brand and even environmentalism, compliance with social and environmental standards have a decisive effect on the preferences and consumption of customers. However, it should not be taken into consideration that only fashion design or only function-dependent designs are temporary. Because products that prioritize functionality will result in monotonous production that is unappealing to customers. A certain balance must be ensured between aesthetics and functionality (Atilgan, 2006).

The age group of customers, like many other personal and socio-demographic characteristics, is an important factor in customers' purchasing preferences (Slabá, 2019). In developed countries, for example, since the elderly population is not interested in the change in clothing and fashion, it can be said that they are more interested in different products that are shifting to different areas. In parallel with this, the level of increase in sales decreases and becomes limited due to consumption habits and preferences concerning markets with aging population. In addition, Hervé & Mullet (2009) stated in their study that the purchasing preferences of individuals in the 35-50 age range are mostly based on the suitability of the products, the individuals between the ages of 65-90 based on the durability of the products, and young people between the ages of 18-25 based on the price of the products.

In addition, it can be said that the physical conditions and characteristics of the customers, depending on the geography and climate of the countries they live in, as well as the personal characteristics of the customers, as well as the quality of e-commerce today are a determining factor in their consumption and purchasing decisions (Fischer, Volckner & Sattler, 2010; Ko, Seo & Jung, 2015; Shareef, Kumar & Kumar, 2008). In addition, the fact that the products are functional in a way that meets the dressing and protection needs according to Maslow's hierarchy of needs is one of the important determining factors in the consumption and purchasing habits of customers (Assadi, 2003).

It is predicted that the demand for multi-functional products with features such as data processing, health, and nutrition, which have emerged with technological developments, will also increase. Rather than the aesthetic qualities of technical textiles used in different sectors and fields, it is seen that they are preferred by customers due to their features such as functionality, usability, and durability (Guleryuz, 2011).

Every company should accurately determine its target markets within the framework of social, economic, technological, and sectoral developments. As a result, they will have the opportunity to position themselves more clearly in the market. Slater, Hult & Olson (2007) stated that companies should adopt a customer, competitor, and technology-oriented approach while determining their strategies and aiming to reach target market segments.

Marketing strategies are created by evaluating all kinds of factors in the business environment such as the market, socio-cultural structure, competitors, customers, and value can be created by meeting customer needs through these strategies (Silk, 2006, p. 3-6).

Firms use different marketing strategies to influence customers' preferences. Firms should get to know the changing and developing customer demands, needs and potential closely and have appropriate production and marketing strategies. Thus, they can have the opportunity to achieve their goal of getting a larger share of the market compared to their competitors. Although companies produce quality products, they cannot achieve the goals they are aiming for if they cannot develop the right marketing strategies in a developing communication environment and ensure that consumers can easily reach and buy the product (Atilgan, 2006). For example, with the increase in importance of e-commerce during the pandemic period, it is seen that there are major decreases in the sales of companies that do not tend to sell their products through e-commerce. No matter how successful and high-quality the product is, if the sales and marketing strategies are insufficient, the targeted success will not be achieved.

3.3. Value Chain and Competitiveness in Textile and Apparel

The business model that deals with all the activities that take place in a certain order in the emergence of a service or product offered by a company through the production process and its presentation to the consumer at the stage of use, as well as their relationships with other activities, is called a value chain (Porter, 1985, p. 36-53). This is a system optimization approach, and according to the model, the activities of each firm form a value system in the process, from the production of a service/product to its delivery to the consumer (Porter, Nabi & Lee 2021).

Creating value in a business is like the interconnected links of a chain, each link depends on the strength of the chain as a whole, but each is different in itself. The strength of the chain depends on the strength of each link, and if one is broken, the chain as a whole collapses, or straightening the weak link causes the entire chain to straighten (Lee & Yang, 2000). Firms are a part of the value system in the sector in which they are active. All companies' activities have a share in the value system, each of them is effective in the formation of this system and contributes to the value system to a certain extent. This model is a model for how added value is revealed in a company (Kaplinsky, 2004). Competitiveness and superiority of companies emerge in parallel with their suitability within this value system and are sustainable (Ongut, 2007, p. 36). This model has a complementary function in determining and evaluating the weaknesses and strengths of companies by systematically analyzing the activities they perform.

Competitiveness is the most important factor that motivates and stimulates businesses, both in their survival and in their sustainability (Caunt, 1989). There are many factors that determine the competitiveness and superiority of a company in the textile sector, both in local and global markets. Aktan & Vural (2004) list the factors that determine competitive power as factors such as owned capital, qualified labor force and technology, product costs, price and quality, and financing conditions in capital markets.

In addition, it can be said that activities such as after-sales customer support services and good management of human resources, company infrastructure, R & D, and technology are also effective. This model can be used to look at the value chain in order to identify activities that will provide competitive power to companies and to identify and analyze the activities suitable for the company and the links between them (Eraslan, Helvacioglu, Deniz & Bakan, 2008).

Firms make use of the value chain in order to minimize costs and maximize value delivery. The profitability of companies is parallel to achieving competitiveness by offering more value to consumers. Accordingly, profitability can be mentioned if the value obtained from the presenting of a service or product is more than the costs incurred at the production stage (Porter, 1985, p. 4-19) Company managers evaluate the activities of their companies according to the data they have obtained. As a result, they can focus on competitive factors and determine their situation in the sector by performing their strategic plans. Today, company managers have begun to focus on this issue in order to correctly guide consumer expectations in terms of the sustainability of competitiveness and profitability. The profitability ratios of companies with good consumer expectations and satisfaction at the sales stage are also increasing. In this way, companies can reach their targeted profitability rates and have a sustainable competitive power (Anderson, Fornell & Lehmann, 1994).

Understanding and meeting the expectations of retailers, marketers, and branded manufacturers, who are in direct contact with consumers and who sell and market the products in the market, are the main conditions of achieving sustainable competitive power in textile. Contract manufacturers, product manufacturers, design manufacturers, brand manufacturers are also manufacturers in the field of textiles (Guleryuz, 2011, p. 7-11). The actors and the factors affecting them according to the company structures in the production processes of both goods and services in the textile and apparel sector within the value chain are shown in Figure 3.2.:

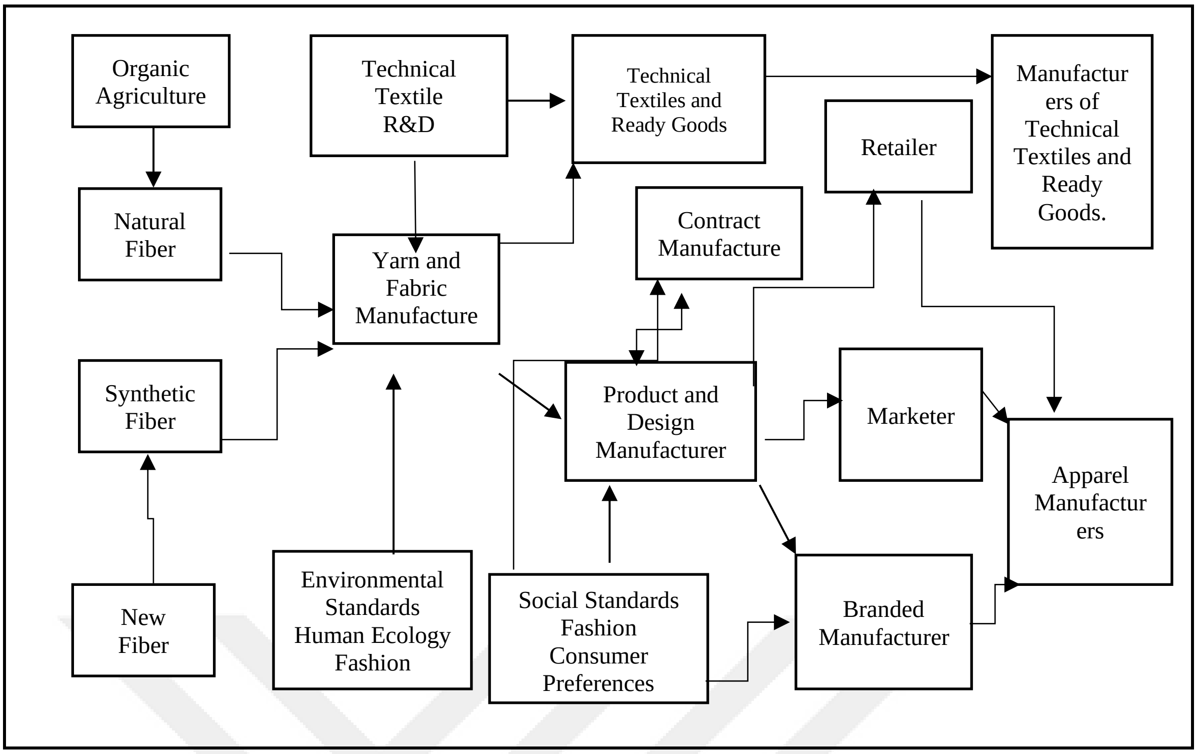

Figure 3.2. Value chain in the textile industry and apparel (Ongut, 2007, p. 36.)

3.4. Development Periods of the Textile Industry

As in every branch of industry, there are certain periods of development in the textile industry: promotion, growth, maturity and decline (From Porter, Ongut, 1980, p.37). The life cycle is often used to explain evolutions that occur with change (Kaplan & Tripsas 2008).

The introductory period, which constitutes the first phase, is the period in which products are developed, R&D studies are carried out and consumer demands are determined. New products are launched and presented to customers. Sales are low, costs are high (Ozturk 2017, p. 91). The product quality is not yet fully developed. Leading firms continue their activities during this period and exports are generally at a low level. In this period, product prices are also high in parallel with the high costs. Multifunctional ready-to-wear products can be given as an example to the promotion period.

In the growth phase, the products develop and reach a certain quality level, but this process continues. The demand for the product also increases with the increase in quality. The number of companies and the variety of products in the sector increases. While costs decrease, firms' profitability rates increase (Rink & Swan, 1979).

As enterprises grow, mass production increases with technological advantages (Porter, 1985, p. 194). High-performance technical textiles can be given as an example of the growth period. High performance technical textiles can be given as an example of the growth period.

The textile industry, which has reached the maturity period when sales are at their maximum but the growth rate is at its minimum level, is lower than the general economy in terms of growth rate. During this period, it is seen that companies grow, but new manufacturers decrease in number. It is the period when the standards of products and production processes are formed and branding takes place. Competition reaches its highest level. Headd & Kirchhoff (2009) stated that the growth rate of new firms during the establishment phase is slow until a certain year. On the other hand, companies that grow fast in one year slow down in the next year and tend to return to their previous growth rate.

The last stage is the recession period in which the market shrinks. High capacity is seen in the market and imports increase. In this period, it can be seen that few companies are able to increase their profitability ratio.

Businesses reduce innovative activities due to diminishing returns (Porter, 1985, p. 196).

The development of the textile industry can also vary depending on competition conditions, technological advances, consumption habits, and government policies (Guleryuz, 2011, p.13). Periods make change a necessity, and it is necessary to demonstrate appropriate management approaches that will allow companies to adapt to market conditions.

In each country, the development period may vary depending on reasons such as the policies followed and the competitive conditions. Nowadays, in some developed countries, it is foreseen that it may enter a period of decline because of the competitive conditions of the textile industry, advances in technology, consumption habits, etc. In the past years, while developed countries have experienced a maturity period, Turkey has entered a development period. However, when countries with a lower workforce compared to Turkey begin to have a greater say and margin in international markets as a result of globalization, it is seen that textiles in Turkey have entered maturity (Ongut 2007, p. 39).

3.5. The State of the Textile and Apparel Sector in the World and the Fragile Five.

Textile, which is one of the oldest industrial branches that has been effective in the development processes of countries, started with the Industrial Revolution in the 18th century. Textile, which has labor-intensive production, has an important role in the economic development of developing countries with cheap labor today, as well as in the economy of the country, with its cheap labor and cost advantage, as well as other high-tech industries. In this aspect, textile is one of the main branches of the economies of developing countries and ranks first in terms of added value and job creation in these countries (Kanoglu & Ongut 2003, p. 24). The potential of the textile and ready-to-wear sectors provides income, employment and foreign exchange income, especially for women in the short term, in socio-economic terms. In the long run, it contributes to growth and development by creating an opportunity for sustainable economic development, especially in developing countries (Keane & te Velde 2008). The textile sector is the most important sector in the economic system of a country that creates added value for countries as it is the second largest employment provider that creates job opportunities worldwide (Atkar, Pabba, Sekhar & Sridhar, 2021).

The data on the percentage of added value creation in manufacturing in the textile and ready-made clothing sectors between 2010 and 2020 were obtained and averaged from the World Development Indicators report published by the World Bank on 30.06.2022. In between these years, it has been observed that the percentage of added value creation in the textile and clothing industries in manufacturing is 7% in Brazil, 12% in Indonesia, 17% in Turkey, 2% in Africa, and 9% in India (The World Bank, 2022). Accordingly, the country with the highest added value in the textile sector among FFCs is Turkey, with 17%, while the country with the lowest share is South Africa, with 2%.

It is seen that textile was born with the production of artificial and synthetic fibers in geographies considered to be developed countries in Europe and North America, and after the Second World War, it became widespread in developing countries such as Turkey, South Korea, China Taiwan (Coban & Kok, 2005). According to the World Trade Organization (WTO) data, while the world textile industry was 104 billion USD in 1985, it reached 583 billion USD in 2007 and 361 billion USD in 2020 (T.C. Bilim, Sanayi ve Teknoloji Bakanligi, Tekstil Sektoru Analiz Raporu ve Klavuzu, p. 7). Based on data from the blog BizVibe (2020) it is estimated that the global textile industry will reach approximately 1.230 billion USD by 2024. The doubling of the average global annual textile consumption from 7 to 13 kg per capita in the last two decades and therefore the realization of 100 million tons of textile consumption has increased interest in the textile industry, and the textile industry production has doubled in the world. The global fashion industry is worth more than 2% of the world's gross domestic product at $3 trillion (Shirvanimoghaddam, Motamed, Ramakrishna & Naebe, 2020).

The global trade in textiles and apparel is governed by specific restrictions and rules. Since the 1950s, quota restrictions have been implemented against "market corruption" within the framework of various agreements. Textile and Apparel Agreement (ATC) and it covers the rules for liberalization in four stages in a 10-year transition period from 1995 (Atilgan T & Sen, 2006). At the end of this period, textile foreign trade continued in accordance with the general rules of the WTO with the abolition of quotas after the transition period from 2005 to 2008 (Uysal, 1998). The most important development that deeply affected the sector was the abolition of quotas in world trade in 2005 with the "Textile and Clothing Agreement" by the WTO. Depending on this development, a new trade system has emerged. China has significantly increased its share in the US and EU markets with the help of this period. Based on data from the blog BizVibe (2020), the top 10 textile producing countries in 2019 are shown in Table 3.1.

Table 3. 1. Top 10 textile producing countries in 2019

Countries	Textile Output in the Global Share (%)
1. China	52.2
2. India	6.9
3. United States	5.3
4. Pakistan	3.6
5. Brazil	2.4
6. Indonesia	2.4
7. Turkey	1.9
8. South Korea	1.8
9. Thailand	1.1
10. Mexican	0.9

As seen in Table 3.1., China is the largest textile producer in the world. The textile industry in China has been one of the central sectors in line with the growth rates seen in the economy in recent years (T.C. Ekonomi Bakanligi, 2016, p. 8). Low cost and large workforce availability, reduced trade barriers and strong material supply are some of its competitive advantages in the textile manufacturing industry (Cao, Berkeley & Finlay, 2014).

In terms of production volume, India is the second largest textile producer in the world. It is seen that the production volume of the Indian textile industry in 2019 is around 100 billion USD. According to the latest report from India Brand Equity Foundation (IBEF), the Indian textile industry contributed to seven percent of India's industrial output (in terms of value), and contributed two percent to India's GDP in 2018-2019 and provided employment to over 45 million people in 2018-2019. The industry contributed fifteen percent to India's export earnings in 2018-19 (T.C. Ticaret Bakanligi, 2022, p. 13). According to IBEF data, the world's top 10 textile exporters in terms of export value in 2018 are shown in Table 3.2 below:

Table 3.2. Top 10 textile exporters in the world

Rank	Countries	2018 Export Value ($ billion)
1	China	118.5
2	European Union	74
3	India	18.1
4	US	13.8
5	Turkey	11.9
6	South Africa	9.8
7	Taiwan	9.2
8	Vietnam	8.3
9	Pakistan	8.0
10	Hong Kong	7.4

As of November 30, 2020, the results of the worldwide general textile export ranking carried out by the European Apparel and Textile Confederation (EURATEX) are shown in Figure 3.3 below. China is in the first place, 28 EU member states are in the second place, India is in the third place, Turkey is in the fifth place and Indonesia is in the 13th place.

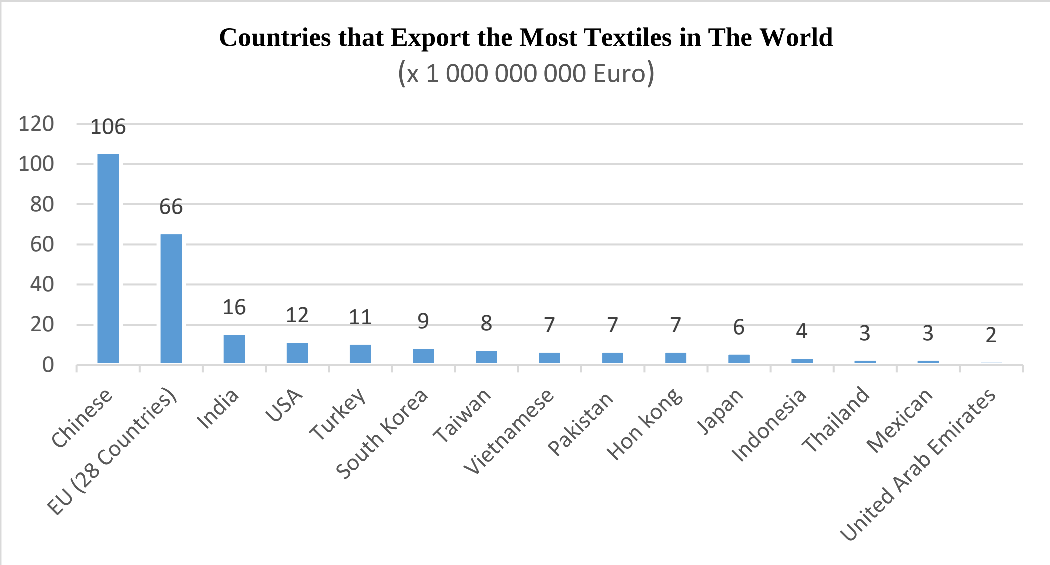

Figure 3.3. Countries exporting the most textile products in the world

As of November 30, 2020, as shown in the study by EURATEX in Figure 3.4., in ready-to-wear and apparel exports, China is in the 1st place, 28 EU member countries are in the 2nd place, Bangladesh is in the 3rd place, and Turkey is in the 4th place. India ranks 7th and Indonesia ranks 8th.

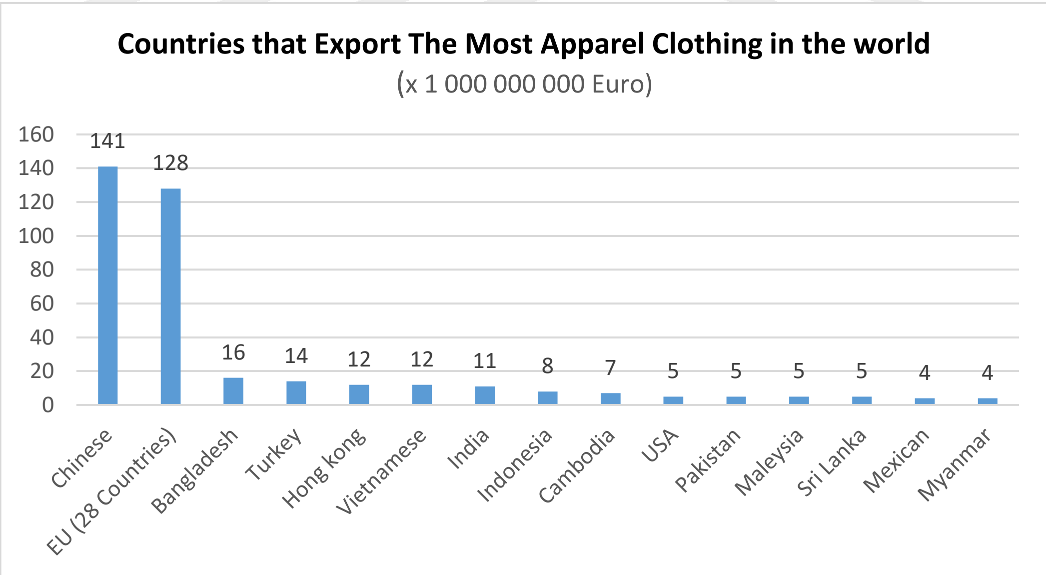

Figure 3.4. Countries that export the most apparel clothing in the world

According to the reports prepared with the data obtained from the studies, examinations, and evaluations, it shows that the textile is at the beginning of the sectors where the negative effects of the COVID-19 pandemic are seen. According to the report titled “The State of Fashion”, which was prepared as a result of the research carried out by McKinsey & Company and Business of Fashion together regarding the post-pandemic situation of the sector, and which was later revised and renewed, expectations regarding the developments in the sector were determined. Accordingly, in 2020, a change is expected between 27% and 30% in ready-made clothing, between 35% and 39% in luxury ready-made clothing, shrinkage between 2% and 4% in ready-made clothing in 2021, and 1% in luxury ready-made clothing compared to the previous year, and a growth 1% to 4% (McKinsey Company, 2021). In addition, according to The State of Fashion 2022 report, the managers in the market have expectations that the impact of COVID-19 on the textile market will decrease and there will be better commercial developments in 2022 compared to 2021 (McKinsey Company, 2022).

Today, it is seen that the number of workshops in India, which is the 2nd in the world in textile and ready-made clothing exports after China, started with the establishment of the first cotton textile workshop in 1855, and increased to 180 in 1901 and 418 in 1946. Textile has an important share in India's exports. However, it is seen that it is one of the important industrial branches of the country with its contribution to employment after agriculture. In fact, it is the second industrial branch in providing employment. According to Atilla Tekstil's Textile Industry Report in India (2020), approximately 35 million skilled and unskilled people work in this sector. The most important countries in cotton production are India, China, USA, Brazil, Pakistan, Australia and Turkey, respectively. India ranks first in the world when only organic cotton production is considered (T.C. Sanayi ve Teknoloji Bakanligi Tekstil, Hazirgiyim ve Deri Urunleri Sektorleri Raporu, 2021).

According to the Textile and Apparel Industry Country Note in India prepared by the T.C. Commercial Counselor of the New Delhi Embassy (2016), one of the world's most important textile producers, 2.3 percent of the gross domestic product consists of the income obtained from this sector. 13 percent of industrial production in India and 12 percent of India's exports consist of income from this sector. (Atilla Tekstil's Textile Industry Report in India, 2020). It is thought that India's textile exports, which exported 40 billion USD in 2019 on a sectoral basis, will reach 82 billion USD by 2021 (T.C. Yeni Delhi Buyukelciligi Ticaret Musavirligi, 2016, p. 4).

The size of the domestic yarn sector, which is rich in raw materials such as jute, cotton, silk, and has a competitive power due to India's strong natural fiber supply that is about 15-17 billion USD. India is the 2nd largest producer of silk and cotton in the world, 1st in jute production, and 3rd in cellulosyl fiber (T.C. Yeni Delhi Buyukelciligi Ticaret Musavirligi, 2016, p. 6; Gautam & Lal, 2020). In addition, it is one of the few countries in the world in the field of both machine and hand weaving. While 70% to 75% of cotton and yarn produced in the country is consumed locally, the rest is exported to countries such as China and Bangladesh. Its qualified and cheap workforce also provides India with an important competitive power and advantage in the textile markets.

The textile industry in Turkey dates back to the Ottoman period. After the proclamation of the Republic, it is the first industrial branch that has developed and been established since 1933 in the economic development and modernization process of Turkey. Textile firms are opened by the public first and then private sector. The textile industry developed with factories opened in different parts of Anatolia, especially Sumerbank, which was established within the scope of the First Five-Year Industrialization Plan (1934), initiated the industrialization movement in Turkey and was the first facility built by the state (Erdem, 2016; Semiz & Toplu, 2019). In addition, factors such as the production of cotton, the raw material of the textile industry, in Turkey and cheap labor contribute to the development of this sector. It is seen that the private sector has been leading the textile industry since the 1950s. Another important development is that the modern textile industry started to develop in the 1970s in line with the goal of industrialization. In this regard, in the 1970s, technological progress was made and the production of processed products was started. The textile industry has an important share in Turkish exports as free market conditions prevailed in the economy in the 1980s in Turkey. Based on the growth rate in the 1990s in parallel with fast, low-cost and skilled labor, raw materials, depending on factors such as Turkey's geographical location, Turkey reaches the strength to compete against European countries in the textile and ready-made clothing sector and becomes 40% of Turkey's total export rate (Ugur, 2004).

According to the data of the T.C. Ministry of Industry and Technology (2021), Turkey exported 8.97 billion USD in the textile sector in April 2020. In the following monthly periods, exports continued to increase and reached 17.33 billion USD according to the figures announced at the end of October 2020. According to the figures announced in November 2020, 16.88 billion USD in textile exports have been realized. In 2019, exports of textile group products amounted to 28 billion USD (16% of total country exports). In 2020, there is a decrease of 1 billion USD due to reasons such as pandemic conditions, and

27 billion USD (18% of total country exports). Turkey ranks 7th in the world in cotton production, 5th in consuming countries, and second in organic cotton production after India. (T.C. Sanayi ve Teknoloji Bakanligi, 2021, p. 7-8).

Indonesia, one of the FFCs, is a country with a high population, cheap labor, and raw material diversity. The country's most important export products are oil and gas. After this sector, the sector that provides the biggest export income in the country is textile (Dis Ekonomik Iliskiler Kurulu (DEIK), 2014, p. 8). Having said that, textile is one of the leading sectors that provide employment in the country. It is seen that Indonesia is affected by the developments in the world and the growth of China and its dominance in world markets like other countries. It can be said that the textile sector of the country is especially negatively affected by this emerging competition (Ankara Sanayi Odasi, 2016, p. 5).

The textile industry in Indonesia has developed under unique conditions. What is decisive here is Indonesia's capital structure, export orientation, and superiority. While garments were previously produced by the hands of tailors, they began to be produced in factories. In the historical process, first weaving factories, then yarn factories, and fiber factories were opened in this country. The raw materials needed began to be produced in-house since the 1970s. Thus, foreign dependency in the textile industry has decreased (Inceler, 1996). With the opening of factories and the increase in the number of factories, traditional weaving has lost its importance. This is a concrete indication that textile is modernized, using advanced technology and developing (The World Bank, 1994).

Textile production and sales in Indonesia were for its domestic market until the 1980s. Since these years, it has started to be marketed to foreign countries with the decisions and measures taken by the governments, so the export rate of the country has increased (Ankara Sanayi Odasi, 2016). Thus, the foreign currency inflow to the country increased. The annual growth of the textile sector's exports in USD terms increased. In the following years, the share of textile in exports has increased gradually. Compared to its competitors, Indonesia's share in the international market and its exports have a very small share in its total exports. In addition, the international’s textile exports are small on a global scale, despite a rapid increase in the 1980-1992 period (Inceler, 1996).

According to the information from the article on fibre2fashion.com, Indonesia's textile and apparel industry showed an increase of approximately 38 percent in 2019, worth

13.8 billion USD, in exports from 10 billion USD in 2018. 30 percent of Indonesia's total production is used to meet domestic demand and 70 percent is used for exports.

According to the Indonesian Textile Association (API), the predicted sectoral growth did not materialize due to the pandemic. In line with the Industry 4.0 Master Plan put forward by the Indonesian government, its target is to enter the top five in the world in the textile industry by 2030 (Ishaque, 2019).

In Brazil, which is another country among the FFCs, the textile sector is one of the most important industrial branches for the country's economy in terms of raw materials, employment creation, cheap labor advantage and market share, as well as creating industrial value (Lucato, Cost & de Oliveira Neto, 2017). The textile industry of Brazil has large export and import potential. In Brazil, which has natural resources and a large domestic market, ready-made clothing companies generally work for the domestic market. However, in the recent period, cheap imports of Far Eastern Asian origin have also negatively affected the sector and weakened its competitiveness. Yet, Brazil is one of the most important cotton producers in the world. In cotton production in 2011, China ranks 1st, India 2nd, the USA ranks 3rd, and ranks 5th after Pakistan, which is 4th. (ITKIP, 2011, p. 13). According to the Textile, Apparel, and Leather Products Sectors Report (2021) of the Ministry of Industry and Technology of the Republic of Turkey, the most important countries in cotton production are India, China, USA, Brazil, Pakistan, Australia and Turkey, respectively. The USA, India and Brazil realize 65% of world cotton export.

Although the Brazilian textile industry is a newer branch of industry compared to other countries, it constituted 5% of the GDP in 2017 and achieved a growth momentum among other sectors of the country. Leather and cotton production are the most produced products of the country, and especially the Brazilian cotton export has been the most valuable textile product contributing to the country's growth, ranking 5th in the world (Textile Today, 2018).

It is seen that the textile and ready-made clothing industry, which is of great importance for Brazil, has a serious contribution to the Brazilian economy. The most important indicator of this situation is that 4.1% of its GDP consists of income from this sector. In parallel to the increase in worldwide textile production and trade over the past decade, this sector has grown in Brazil. With a growth rate of approximately 220%, it is a country that has grown more than many countries. In yarn, fabric, and knitwear production, Brazil ranks 8th among the top ten countries in the world and 7th in ready-made clothing (Barbosa, 2010).

From 2006 to 2010, textile trade in Brazil amounted to 5.6 billion USD, from 3.2 billion USD to 1.9 billion USD export and 3.7 billion USD import. Exporting 1.5 billion USD worth of textile products in 2006, Brazil reached a value of 1.8 billion USD in 2008. With the effect of the global economic crisis in 2009, its exports decreased by 18.8% compared to the previous year and amounted to 1.5 billion USD. In 2010, its exports increased to 1.9 billion USD and its imports to 3.7 billion USD (ITKIP, 2011, p. 18). In 2016, 39.3 billion USD revenue was obtained from textile exports. According to the data obtained, this figure increased to 45 billion USD in 2017. The imbalance between imports and exports in textiles created a current account deficit of 4 billion USD in the Brazilian economy in 2017 (ABIT, 2017). According to ABIT's report, Figure 3.5. below shows Brazilian Trade Balance from 2004 to 2020:

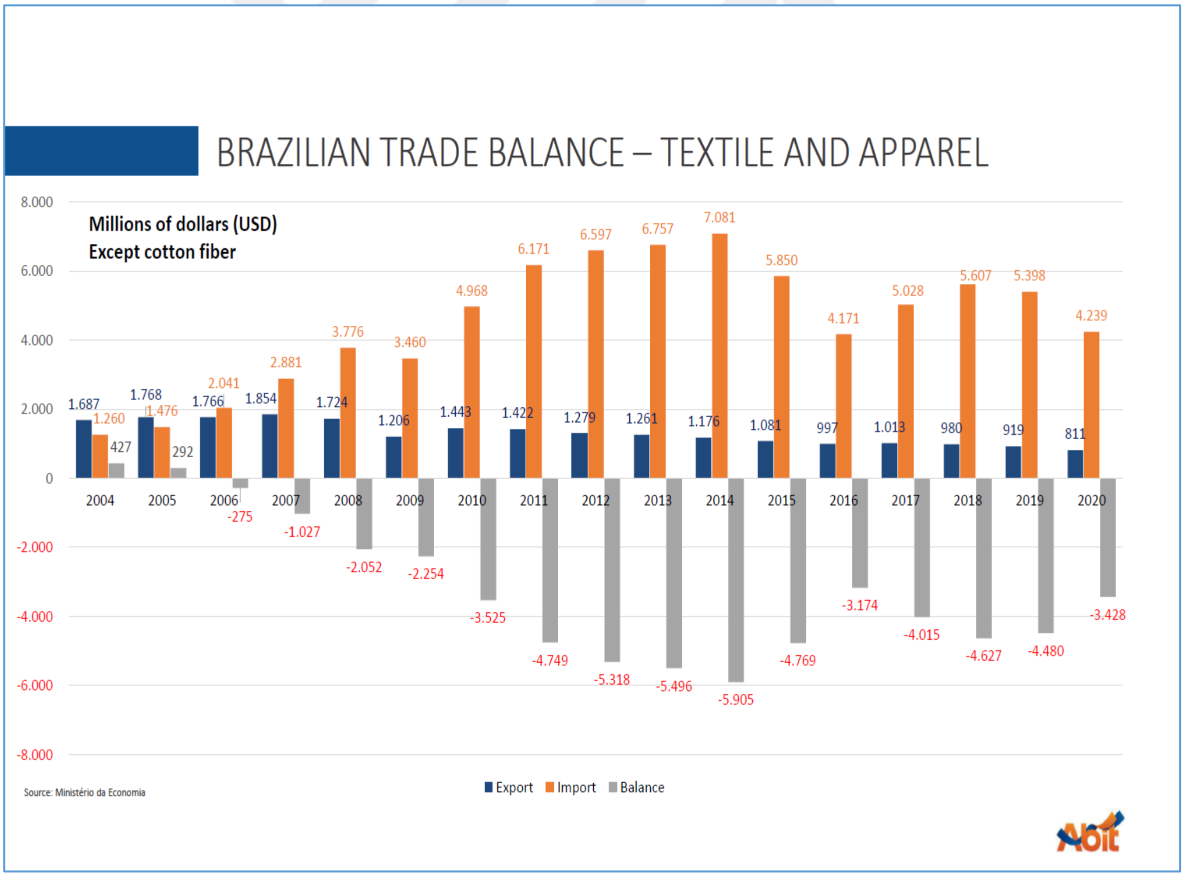

Figure 3.5. Brazil's trade balance from 2004 to 2020

4. WORKING CAPITAL MANAGEMENT

In this section, working capital elements (current assets and short-term liabilities) will be explained, with an emphasis on the concept and management of working capital. In addition, the characteristics of working capital will be mentioned and its types will be classified. A theoretical framework will be created by including both descriptive and descriptive theoretical information about the determinants affecting the amount and requirement of working capital and the methods used for this, working capital financing strategies and measures. In addition, the concept of working capital in the textile sector will be explained in general terms.

4.1. Working Capital Concept and Management

The current assets on the balance sheet assets that can be converted into money in a short time, and all expenditures made for this purpose are called WC. The WC corresponds to assets that can be converted into money within one year and that companies need to continue their operations. WC is generally defined similarly in the literature. Receivables, inventories, marketable movable assets, cash on hand, etc. WC, which are assets, are reported in the balance sheet's current assets section (Akguc, 2013a, p. 202; Buker, Asikoglu & Sevil, 1985, p. 100). Traditionally, WC refers to current asset and current liability items on the balance sheet. Thus, inventories, receivables, short-term investments, and cash balances are all included in WC (Atrill, 2012, p. 126-152; Berk, 2015, p. 11; Brigham & Houston, 2015, p. 569; Firth, 1976, p. 1).

The concept of WC, which emerged in the era of predominantly agricultural industries and plays an important role in the success of businesses, is crucial for companies (Akin & Eser, 2014). So much so that the activities of companies that do not invest in fixed assets depend on the efficient management of the WC in order to continue to operate profitably and efficiently and meet their obligations without running into financial difficulties, it has taken its place in the financial literature with the need to allocate the liquidity necessary for these daily activities (Gonenli, 1988, p. 401).

Decisions on the management of working capital are one of the most important topics in the field of finance, especially in today's world. Extremely important decisions, such as a company's investment decisions, financing decisions, and stock returns are evaluated in this context. However, nowadays it is a topic that business leaders should pay special attention to in order to continue their activities as a sustainable and healthy company (Jose, Lancaster & Stevens, 1996).

Companies; They realize their expenses such as debts, dividends, rent payments with the cash assets it owns. In this regard, the WCM shows a quality that includes not only cash management but also the other assets of companies. Even when companies invest in fixed assets, they try to balance both asset items according to their own business needs by evaluating the WC needs. WC is one of the calculations that best reflects the financial situation of companies in general.

In their operating cycle, companies first require raw materials, followed by labor and energy in the production process. In addition, costs are incurred in the marketing and sales phase for transportation, storage, insurance, etc. In order to meet these requirements and meet the expenses, enterprises need cash or credit. In other words, companies need funds to be able to produce goods and services. WC is the cash and short-term loans that companies set aside for the expenses that will be incurred in connection with these activities. In this context, WCM is concerned with decision-making processes about how business investments should be defined and financed in order to generate a return (Lorenzo & Virginia, 2010, p. 3). For every company, it is important from which sources the WC is covered and which assets and investment areas should be financed. Appropriate and correct decisions to be made in this regard have an impact on the success and profitability of the company.

Companies use their funds of WC to invest in current assets (Berk, 2015, p. 107) The main characteristic of these assets is that they can be converted into cash in the short term. This situation gives companies the opportunity to pay their short-term debts. It seems impossible for a company to continue its activities without WC. Similarly, the profitability of companies depends on the good and effective management of the WC. While the WC covers the short-term financial needs of companies, it also prevents some interruptions and price fluctuations that companies may experience during production, marketing, and sales; they may experience seasonal changes or extraordinary situations, etc. It is important to protect companies from negative developments and keep them alive.

WC is an important criterion and indicator that increases the credibility of companies and enhances their image and reliability in the market. Another aspect is that it is accepted as a value that shows the contribution of companies to the profitability rate and their financial situation.

When managers efficiently manage their company's WC, the company's free cash flows will increase, providing the opportunity to maximize shareholder value (Berk, DeMarzo & Harford, 2016, p. 15). Well-made decisions that increase shareholder welfare are influenced by behavioral biases. (Keown, Martin & Petty, 2014, p.3). At the same time, the ability to effectively manage WC depends not only on technical and analytical skills but also on the personal skills of the manager, as each component of WCM requires the ability to build and maintain good relationships with customers, suppliers, lenders and others (Berk, 2015, p. 108; Megginson & Smart, 2008, p. 11).

Another purpose of WCM is to ensure and maintain the operating cycle of companies without problems. Therefore, working capital management is critical for businesses. The operating cycle of a company extends from the purchase of raw materials to the uninterrupted production and delivery of final products. Achieving this is one of the main goals of WCM (Hill, 2013). However, optimizing the level of the WC and minimizing the cost of these resources are among the secondary goals of WCM. It is imperative to carefully monitor, negotiate, and manage the cost of WC with effective management.

Another goal of WCM is to maximize the return on investment, or the return on investments already made. The return on assets already invested must be greater than the weighted average cost of capital. This maximizes wealths (Stowell, 2012, p. 40). The main goal of financial management from this point of view can be expressed as a maximum of wealth that can be achieved through sustainable growth and profit maximization while developing. To achieve this, the goals of all stakeholders, including customers, suppliers, employees, etc., must be aligned.

Finance managers determine the financial policies that companies pursue under WCM and plan activities accordingly. In other words, key policy decisions include the target levels of working capital that companies will need to continue operations and cover their current operating costs, which they can easily sell in the short term, and the cash they will hold, as well as how and from what sources this working capital will be obtained. Effective WCM thus enables companies to meet their obligations, reduce the risks they face, and take the necessary actions.

WCM, which is part of the general financing policy of companies, consists of managing a company's current assets and current liabilities to achieve a satisfactory level WC. In this context, necessary planning and decision-making processes are carried out for the current assets and short-term debt, which represent a significant portion of total assets. It focuses mainly on the amount of investment in current assets and the conversion of money from one value to another, e.g., in goods or receivables to cash. Since current assets are direct and parallel to the level of firms' sales, it is likely that the commitment to invest more in current assets increases firms' sales. Moreover, on-site investments in current assets increase the profitability of companies and provide them with the opportunity to meet their short-term obligations and debts. However, the fact that companies allocate too many funds to current assets prevents them from achieving the desired profitability, which means that they forgo profitability. The fact that fewer funds than necessary are allocated to WC may initially appear to reduce the cost of capital, but this can lead to the company experiencing negative situations, such as not being able to achieve the profitability target because it misses sales rates and opportunities that arise. For this reason, it would be appropriate to make a balanced decision by analyzing the profitability and risk factors of the company's decisions on how much to invest in current asset.

The focus of WCM is on how much of the total investment is allocated to current assets and the amount of current assets and current liabilities. As firms' sales change, the working capital cycle will also change rapidly. In contrast, investment in fixed assets and long-term debt also respond to changes in sales, but only weakly. There is a cost to investing in current assets and to increasing investment in current assets. Therefore, if a company can reduce its working capital to keep its sales the same, it reduces its costs and increases its profitability (Brighams & Houston, 2015, p. 537-577). Overinvestment in current assets results in the company operating at less profit, as this is not an efficient use of funds, since current assets usually yield lower returns than long-term assets (Wild, Shaw & Chiappetta, 2014).

Finance managers determine WC needs based on a variety of factors and ensure that their companies have sufficient working capital. The WC is funded from internal and external sources. Companies can fund WC with their own equity or profit, as well as non-operational short-, medium-, and long-term financing sources. According to criteria such as suitability, cost, and flexibility in the selection of funds, each company chooses one of the sources of financing, taking into account certain risks in accordance with its own.

The WC activity required of each company varies and depends on factors such as size and scope of activity. There is no specific rule or formula for each company as to how much WC should be. For example, a company in the service sector does not need inventory, while manufacturing companies need any large amounts of inventory (Akgun, 2021, p. 71).

WC is an important indicator for all companies, regardless of their size, showing their financial status and corporate liquidity (Staff, 2013). In this context, sufficient WC means that the company must be able to meet all short-term costs and obligations. The term "corporate liquidity" can be defined as the ability of a company to quickly obtain cash in the form of assets to cover operating expenses.

It can be seen that WC is more important for small businesses that do not have the ability to borrow sufficiently in the financial markets, so these businesses can take out short-term loans because they hardly have the ability to take out long-term loans. They can also lease fixed assets, but must have more working capital than larger companies to invest in WC assets and remain competitive. The situation is somewhat different for large companies. These companies must meet various obligations already have excess working capital because they have more expenses due to price competition. They must also have enough WC to borrow money, increase their stock price, pay their expenses, and take out short-term loans. WC, which is a measure of liquidity, cannot guarantee whether a firm is financially sound, but it does provide sufficient insight into the company's financial position. In this respect, WC is also a measure of the future creditworthiness of companies. It will be more expensive for companies that want to take on debt by issuing bonds or buying commercial paper if there is not enough WC. A publicly traded firm that does not have sufficient WC does not have confidence in the market, so its share prices may fall (Divestopedia, 2017). WC is also a measure of a company's ability to pay short-term expenses or debts. Despite all this, WC is not the only indicator of a company's solvency and financial position. Other financial indicators must also be considered in the evaluation and analysis.

Considering that competition will be as intense in the future as it is today, it is obvious that those companies that effectively manage WC will have more advantages than their competitors that do not. So much so that, in competitive market conditions, it has the ability to pay its debts and collect its receivables at the appropriate time.

Companies that achieve a high profit rate in the operating cycle have the opportunity to invest more in more WC for the next operating cycle. Thus, there is no need for external financing. However, the need for WC will increase even more during periods when there are no or low profits. As Aksoy & Yalciner (2008) note, in times of high inflation, firms need new resources to continue their operations and maintain their volume of activity. In such cases, companies that resort to outsourcing must reduce their workforce. Therefore, the required WC can be financed with retained earnings. In this way, companies maintain their volume of business.

Effective WCM plays a very important role in increasing corporate profitability and growth. It is associated with higher shareholder wealth, which is the main goal for a firm. Poor management of the WC is one of the main reasons for firm failure. Experience shows that inadequate planning and control of WC is one of the most common causes of firm failure (Pass & Pike, 1984). From the studies in the literature, it is clear that the success and profitability of the companies depend on the correct and effective management of the WC. Therefore, financial managers spend a lot of time to ensure the success of the company and increase its profitability by maintaining adequate liquidity with minimal risk. They work to determine when WC funds are made available, how they are used, and how they are measured, planned, and controlled. Particularly as the cost of capital increases and funding decreases, studies conducted in the literature note the need to constantly review WC and maintain working capital accounts at appropriate levels.

The results of this work should be of great importance, especially for managers. They can help companies strike an appropriate balance between liquidity and profitability, especially after the recent global financial crisis and the pandemic that is sweeping the world, and the idea that the elements of working capital should be considered.

4.2. Components of Working Capital

Current assets and short-term liabilities, which can be converted into liquidity within one operating year, are related to each other and have a maturity of up to one year, are considered as elements of the WC. An asset in this scope may turn into another asset for a short period of time (Ercan & Ban, 2009, p. 276; Watson & Head, 2007, p. 86). As stated above, the success and profitability of companies depends on the good and effective management of the WC.

4.2.1. Current Assets

Assets are divided into two main groups: current (short-term) and non-current (long-term). Current assets include inventories, moveable assets, current trade receivables, and cash and cash equivalents that can be converted to cash quickly within one operating period after the balance sheet is prepared, while non-current assets are assets that require more than one year or more than one operating cycle to convert to cash. The operating cycle includes the period between the acquisition of the inventory asset and the realization of the cash from the sale of the inventory asset. Current assets are presented in the balance sheet in order of liquidity (Brighams & Houston, 2015, p. 60-62; Gibson, 2008, p. 94-96; Ross, Westerfield & Jaffe, 2003, p. 10-11).

4.2.2. Current Liabilities

Companies must meet various obligations throughout the operating period to cover the operating budget. The debts that companies have to pay at the end of the period of activity within an operating year are called current liabilities (Barrow, 2008, p. 36-40).

Short-term liabilities are divided into four groups: 1) liabilities to suppliers, 2) accrued expenses, 3) liabilities to creditors, and 4) liabilities to government. The first group is the debts of the enterprises arising from the purchase of goods and is called 'accounts payable' in the balance sheet. The second group is the accrued debts such as workers' salaries that must be paid in the short term. The third group, as the name suggests, is the short-term debt that businesses have to pay when they use credit. The short-term debts in the last group are tax debts that companies have to pay within one year (Ittelson, 2009, p. 31). According to Byrne (1984), the most important and preferred short-term borrowing type for a business is accounts payable. Because, in general, businesses prefer accounts payables, which they consider as a type of loan, by evaluating other factors such as interest rate comparison and discount rates (Byrne, 1984, p. 6).

4.3. Characteristics of Working Capital

WC Elements that are in constant interaction with each other are more liquid and short-term than fixed assets. Working capital decisions can be revised and corrected in a short time. These elements may change to another element in the operating cycle, but each relates to activities that do not occur together (Aydin, Coskun, Bakir, Ceylan & Basar, 2004, p. 113-114).

Assets that represent WC elements, such as active assets that can be converted into money, sold or consumed within one year, have a one-year cycle. The process that begins with the purchase of commodities with cash flows into the coffers of companies as cash at the end of production, marketing and sales activities. This cycle occurs at least once a year (Aksoy, 2008, p. 8). WC items can be held or converted into cash during the operating period.

These are entities that are in constant interaction with each other in a one-year cycle. This interaction can be briefly explained as follows: The raw material that the company needs for production is provided, for example, by the company's current cash or credit. On the other hand, when raw material inventories increase, debts to vendors also increase (Akin & Eser, 2014). In this cycle, each entity that makes up WC can transform into another. This transformation can occur more than once a year or at the latest in one year. This transformation is shown in Figure 4.1.:

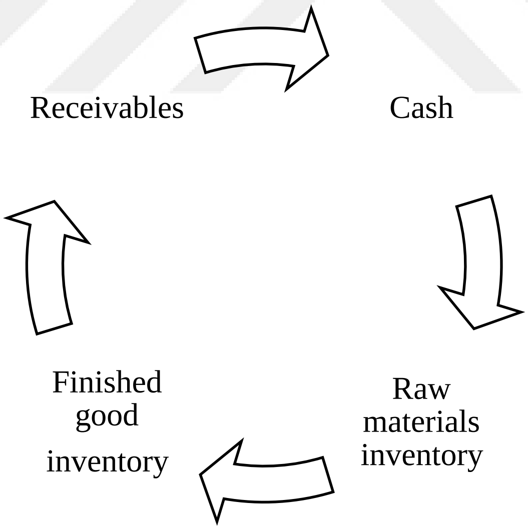

Figure 4.1. Cash cycle in business (Brealey et al., 2019, p. 575).

In a company, activities take place in different processes and at different times in three main phases: production, sales, and collection. However, they do not necessarily take place at the time scheduled in the business calendar. If they all took place at the same time, there would be no need for working capital management.

4.4. Cash Conversion Cycle (Working Capital Cycle)

Companies have obligations at WC for the activities they must perform at a given time. For this purpose, WC funds are created and circulated within the company. The term cash conversion cycle (CCC) refers to the time it takes to convert net working capital and current liabilities into cash (Boopathi & Leeson, 2016). The CCC is also referred to as the working capital cycle or cash operating cycle.

The importance of using CCC in WCM was first expressed in Gitman's research (Gitman, 1974). A significant portion of the literature has used CCC as one of several measures of WCM effectiveness. This is because CCC is a powerful measure of financial performance for assessing how well a firm is managing WC. It indicates how quickly a firm can convert its initial capital investment into cash. CCC was introduced by Richards & Laughlin (1980), who suggested it as a dynamic indicator in liquidity analysis. Then, as a measure for WCM (Hutchison, Farris & Anders, 2007; Lind, Pirttilä, Viskari, Schupp & Kärri, 2012) was used and extended to the study of its effect on the profitability of firms (see. Deloof, 2003; Shin & Soenen, 1998; Yazdanfar & Ohman, 2014). CCC components calculated by different methods contain important data about how well a firm manages its capital. These data can assist investors, supply chain partners, and stakeholders of the firm in analyzing firm performance and financial health. It can be determined by the generally accepted formula (Xin & Sorin, 2019):

CCC	=	Days Inventory Outstanding	+	Days Receivables Outstanding	-	Days Payables Outstanding

CCC is the period between a company's cash outlay for the purchase of raw materials and the final collection of receivables for products or services sold, and the time when the money is received in the company's vault and committed to the WC (Hutchison et al., 2007; Richards & Laughlin, 1980). CCC is dynamic because it combines balance sheet and income statement data to create a time-dimensional measure (Jose et al., 1996). Considered an important measure for effective WCM and especially cash management, CCC is the most important part of WCM. WCM is an important dynamic for any company as it has a direct and indirect impact on the profitability and risk of a company and therefore on its value (Muscettola, 2014).

CCC can be used to compare companies and industries based on common characteristics. By comparing changes in performance over time, knowledge can be gained about how to manage CCC metrics (Farris, Hutchison & Hasty, 2005). Companies can set their strategies for improving the cash return cycle and its elements in the context of factors such as the economic situation of the country, the sector, and the market structure; they can improve it every year and make it a corporate goal.

Companies continue to operate with the aim of maintaining the operating cycle at a minimum level and getting by with a minimum amount of cash. On the other hand, they want to maximize their profitability. The higher the operating cycle, the more profit can be made on the sale. Within the scope of WC, it can realize its investments with a high turnover rate and reach sales and profit margins. In addition, it is predicted that the profit rate of enterprises from sales is higher when the current asset investment turns over less. The longer the CCC is, the longer a company ties up capital in working capital without earning a return. Therefore, companies try to reduce CCC by collecting accounts receivable faster or sometimes extending accounts payable. When this circulation stops, labor becomes lifeless. Therefore, WC is also called circulating capital because it circulates like blood in the human body (Boopathi & Leeson, 2016). The CCC and its components are shown in Figure 4.2.:

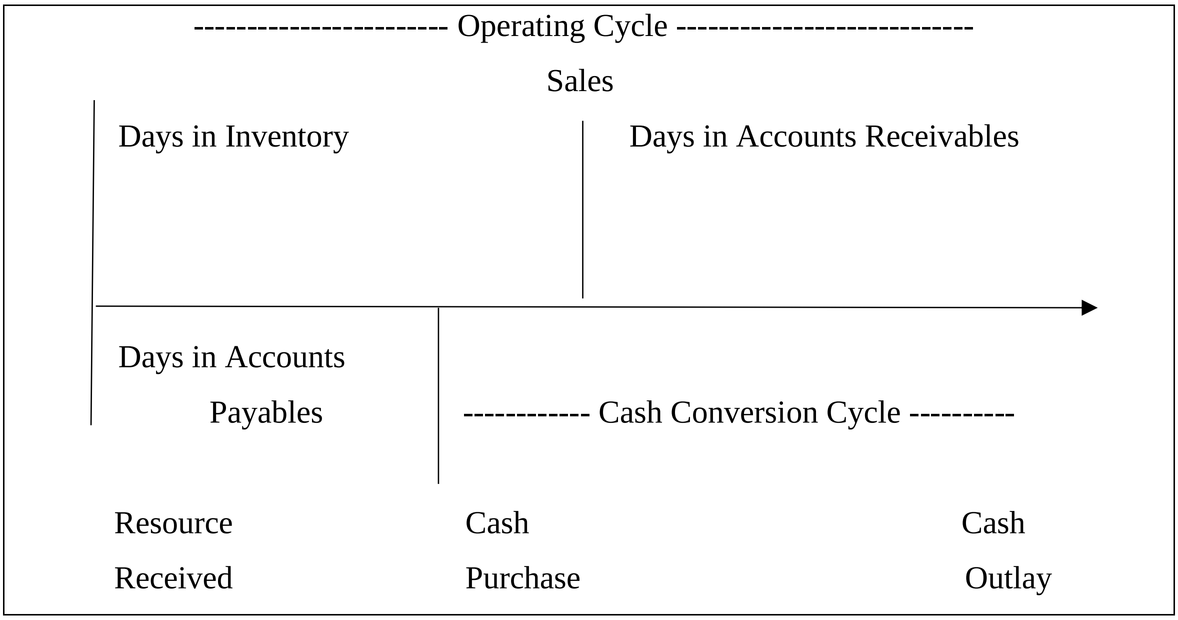

Figure 4.2. Cash conversion cycle and its components (Jose et al., 1996):

Companies meet their cash needs by issuing stock, borrowing, and activities. Cash is raised; fixed assets are used to procure raw materials and pay debts to creditors. In this cycle, products are manufactured by processing raw materials in the production phase; salaries and other general expenses are paid with cash from sales (Boopathi & Leeson, 2016).

Businesses need funds to operate. A company can survive without making profits, but companies that do not have sufficient WC funds or do not reach the desired level, and those with a low CCC cannot continue their activities and may even be on the verge of bankruptcy. Therefore, each company must decide how to weigh the level of WC and CCC against the potential risk of failure and take the necessary actions.

A positive CCC is beneficial for companies to balance their receivables and payables, minimize net working capital, and maximize free cash flow. For example, the CCC of a company that pays its creditors within 30 days but does not collect its trade receivables from its customers for 60 days is 30 days. In particular, companies that want to grow need more funds and cash. So they want to provide cash by shortening the CCC. Funders generally look for companies to have a positive WC when providing financing. Therefore, they pay attention to the CCC of the target companies and look at their balance sheets and cash flows (Jain, 2004, p. 30). Such a situation allows them to think that the firm has more than enough current assets to meet its financial obligations. On the other hand, companies with negative WC do not have a positive view of the sustainability of their activities. Therefore, WC funds are considered the lifeblood of companies as they enable them to survive and continue their activities. For this reason, it is of great importance that the CCC be short in WCM.

4.5. Types of Working Capital

Every company needs to make various expenses in order to continue its operations (Aksoy & Yalciner, 2008, p. 19). For this, it needs a certain level of WC. WC often changes form, moving from cash to inventory and/or receivables and then back to cash. Therefore, it is also called a revolving fund.

WC is the capital/fund required for the firm's operations. These funds, obtained from different sources, are generally invested in all kinds of stocks such as raw materials, spare parts, finished goods and debtors as loans and cash on hand. The WC is divided into several types based on the balance sheet view and the operating cycle view. The operating cycle is basically the time required to convert raw materials into cash (Jain, 2004, p. 30). WC is classified as gross and net, fixed, variable, seasonal, periodic, extraordinary, negative and private working capital.

4.5.1. Gross and Net Working Capital

The total of the current assets investments of the companies that can be converted into liquid during the activity year is defined as the gross working capital (GWC). Current assets, which are liquid values, are listed in the assets of the balance sheet according to their liquidity levels. The management of these current assets is understood from the WCM (Usta, 2003, p. 2). Net working capital (NWC) is the difference between current assets and current liabilities, which make up WC (Ehrhardt & Brigham, 2011, p.642). It can be calculated with the help of the following formula (Guerard, 2005, p. 26):

NWC	=	Current Assets - Short-Term Liabilities

NWC shows whether firms have current assets to cover their current liabilities. NWC is determined by the above formula and can take a negative, positive or zero value. A negative NWC value indicates that a company cannot meet its short-term obligations and may encounter various problems; a positive value indicates that the company's short-term external debt is less than its current assets. In this case, it can be said that the company can meet its short-term obligations without any problems and continue its activities. If the value is zero, it is assumed that the company has both current assets and current liabilities.

The scope for future activities and demands of firms is expressed by the reliability of their net working capital. Figure 4.3 shows net working capital in the corporate balance sheet:

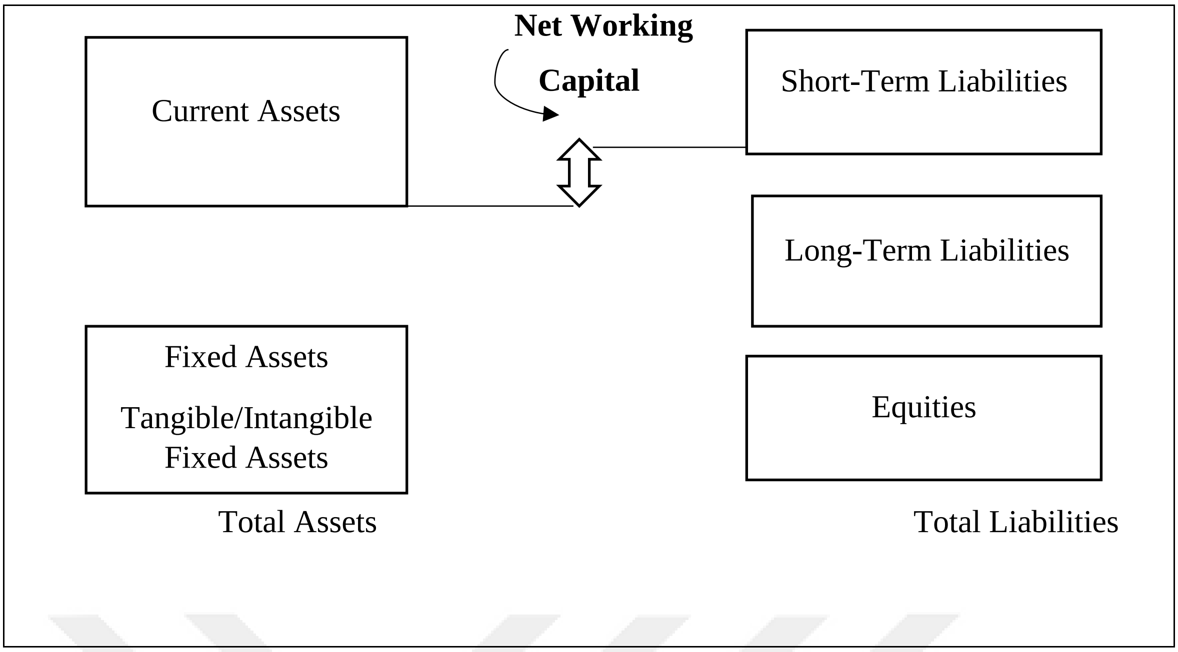

Figure 4.3. Firm balance sheet model (Ross et al.,2013)

Companies with an active NWC; as it can be able to use its standing values with its full capacity, it can also have opportunities such as paying on time, upgrading credit, strengthening their stock and fulfilling demands, protecting the company from adverse effects of unexpected value drops and emergencies in current assets and increasing the sales volume of the company by enabling it to sell.

4.5.2. Permanent (Continuous/ Fixed) Working Capital (PWC)

Fixed working capital of firms; It consists of the minimum level of current assets that are necessary for them to continue their activities in the normal business flow without disrupting production and the minimum level of cash they keep in order not to fall into liquidity shortage. In other words, it is the minimum amount of WC that should always remain invested. It is the minimum level of current assets, which is the WC that companies use continuously and that they can continue their activities in the normal operating period, except for extraordinary situations (Erdogan, 1990, p. 71). PWC, a combination of cash, inventories, and accounts receivable that are generally always on hand, can also be referred to as the minimum working capital that companies are required to maintain until their operations are complete, depending on the scope, size, and capacity of their operations (Turko, 2002, p. 227).

4.5.3. Temporary Working Capital (Variable) (TWC)

It is expressed as the amount of additional working capital that firms hold in excess of their minimum current assets PWC to meet buyer demand outside the normal process. These are current assets that companies use temporarily or periodically to increase their sales or to meet buyer demands resulting from changes in economic conditions (Hampton & Wagner, 1989, p. 6).

There is a close relationship between TWC and production and sales levels. Production and sales are not evenly distributed throughout the year. When production is in high demand and there are many sales on credit, larger amounts of TWC are needed. At the same time, TWC is needed when production is carried out in anticipation of demand in the near future (Hill, 2008). In summary, TWC is additional working capital required to support changing production and sales activities. Simply put, it is the difference between NWC and PWC. Its main characteristic is "fluctuation". Therefore, it can be said that TWC is unpredictable.

4.5.4. Seasonal Working Capital (SWC)

There is seasonal demand for some products. SWC means the amount of WC held to meet the seasonal demand for the product. The SWC is the temporary increase in WC for businesses due to some relevant seasons. In some periods, when the volume of business in the sector is intense, the additional capital that companies need to meet the demand is called SWC (Bektore, 1970, p. 5)

One of the factors that determine the working capital requirement is seasonal changes. The amount of working capital needed due to seasonal changes and its components can differ. Especially in certain months of the year, the need for working capital may be less or more compared to other months (Aksoy & Yalciner, 2008, p. 22). The effect of the seasons on textile enterprises can be observed with the seasonal increase or decrease in sales. For example, this applies to textile manufacturers whose season is summer t-shirts. Normally, the demand for WC increases this season due to high sales in the relevant seasonal period and then decreases later due to more receivables from debtors than sales. Another example can be applied to ice cream manufacturers and sellers whose season is summer. Normally, WC requirements increase that season due to high sales during that period and then decrease later because collections from debtors are greater than sales.

While the PWC is continuous, it should be funded from long-term sources, while the SWC is not continuous, it should be funded from short-term sources because it occurs and ends in a specific period of time (Ceylan & Korkmaz, 2017, p. 238-240).

Firms can keep their excess cash to be used especially during periods when product sales will increase in order not to keep them idle (Aksoy & Yalciner, 2008, p. 21). In such cases, it can be stated that the WC level of the company has remained the same, but only the structure has changed.

4.5.5. Periodical Working Capital

Companies may choose to increase their business volume after cyclical fluctuations in the market or at the end of a profitable period. To do so, they need additional working capital, which they can finance with their own funds or short-term funds in addition to PWC. This is called as periodical working capital (Erdogan, 1990 p.72).

4.5.6. Extraordinary Working Capital (EWC)

The operations of companies cannot always be controlled, so companies are managed in anticipation of potential risks. Companies may have to change their production, marketing, or sales processes due to changing market conditions or unexpected situations, and they may face exceptionally difficult situations (strikes, natural disasters). To minimise the negative impact in such cases, they provide a WC beyond the normal WC, especially in times of high profitability ratios. This is referred to as EWC. As an example, consider the short-term situation of the food industry due to closures in the wake of the COVID-19 epidemic. With news of the closure, food inventories began to be stockpiled, and companies even faced shortages to meet the sudden increase in demand. WC demand increased significantly.

It is held beyond normal working capital and for unexpected situations that may arise. It is a type of WC that companies use to keep their operations running smoothly. It can be used to meet uncontrollable risks and maintain operations. It refers to the short-term financial adjustment carried out to meet uncertain changes or uncertainties.

4.5.7. Negative Working Capital

Sometimes the value of current assets is less than current liabilities; this difference is called negative working capital. When such a situation occurs, the company will be in a financial crisis in a very short time. Of course, instead of just examining a period and making a decision, evaluations should be made by examining the results of the past period.

4.5.8. Special Working Capital

Companies may implement special business development programs. Such programs may include advertising campaigns, sales promotion activities, product development activities, market research activities, new product introductions, and market expansion. Thus, special working capital WC, which is held by companies to cover the expenses of their private programs. Special working capital is an increase in temporary working capital due to a special event that does not normally occur. There is no basis for prediction and it usually occurs infrequently. For example, in a country hosting the Olympics, all workplaces require additional working capital because of a surge in economic activity.

4.6. Determinants Affecting Working Capital Requirement

Many factors can affect the amount and need for WC. Therefore, there is no definitive method to determine the absolute amount of GWC or NWC for each business, nor can it be determined by a fixed rule or formula. In order to determine the amount of WC required by companies, the activities and data of the companies in question should be closely monitored and analyzed. The required amount of current assets included in WC depends on the following factors:

4.6.1. Size of Firms

The size of the company and its volume of activity are among the factors that influence WC. Accordingly, the level and the amount of WC are determined. According to Moss and Stine, working capital management is more important for small-sized enterprises as they are less likely to find external financing such as bank loans than large enterprises (Moss & Stine, 1993).

Small businesses differ significantly from large companies. These differences are reflected in the finance manager's decisions regarding working capital investments, depending on the size of the firm, as these make these firms more vulnerable to working capital fluctuations (Padachi, 2006). In addition, the volume of activity of a company is determined by the amount of sales and the amount of the company. Small companies have a smaller amount of cash, receivables and inventories than a large company. This difference is even more pronounced for large companies. A manufacturing enterprise, for example, uses mostly fixed assets in its activities, while the activities of commercial enterprises depend on current assets.

The amount of sales is also an important indicator in determining how much WC is needed in the WCM (Aksoy & Yalciner, 2008, p. 45). When a company's sales fall, it is expected to reduce its revolving assets by making an effective plan and vice versa. In addition, the company can increase its sales volume, thereby increasing credit opportunities and getting more goods at a lower cost, so that the need for WC can also be reduced (Kennedy & Mcmullen, 1962, p. 266-267). When corporate managers see that sales will increase, they are likely to increase their stock investments. The company is then expected to increase its use of credit (Mongrut, Fuenzalida, Cubillas & Cubillas, 2014). WC components are likely to increase as sales increase. In such a case, WC should be evaluated on a sales basis and its components should be invested in accordingly.

This is directly indicated by the WC requirement, with an increase in sales, more WC is required for finished goods and debtors and vice versa. Accordingly, companies with higher operating volume and sales volumeneed more WC. Because more raw material procurement and operating expenses such as labor are more total (Turko, 1978, p. 50).

4.6.2. Nature of Business And Subject of Activity

The WC requirement and the fields of activity of the companies cannot be separated from each other, and there is a strong relationship and bond between them. For example, the working capital requirements needed in public services or trade areas are different from the industry area. Industrial and commercial activities mean that more WC and funds are needed than public services. The field of activity of the companies, the nature of the business and the production techniques are also a determining factor for their WC needs (Pandey 2015 p. 662). The WC requirement is therefore determined by the nature and scope of a business. For example, when it is considered that a company dealing with electricity supply should invest more in fixed assets due to the nature of the business, it can be said that the need for WC will be less. For a bakery unit or a snack shop, the business cycle takes almost a day or two, so the requirements can be very low. Similarly, some firms that are still in the vendor market may have much less WC requirements as their sales will be mostly cash-based and the operating cycle will be much shorter. Thus, all time delay between credit sales and invoice collection is saved. In contrast, a firm that manufactures heavy machine tools, for example, will naturally have a much longer operating cycle as it will mostly sell on credit and therefore a much higher level of WC will be required.

The proportional levels of investments in current and fixed assets for different industry groups, as generally observed, are presented in Table 4.1. (Mathur & Rangarajan, 2015, p. 143-144):

Table 4.1. Percentages of Current Assets and Fixed assets

Current Assests %	**Fixed Assets %**	**Industrial Groups**
80-90	10-20	Trading, construction
70-80	20-30	Edible oils, tobacco
60-70	30-40	Cotton textiles and sugar
50-60	40-50	Tea plantations
40-50	50-60	Iron and steel, basic industry chemicals
30-40	60-70	Aluminum, Shipping
20-30	70-80	Electricity generation and distribution
10-20	80-90	Hotels and restaurants

4.6.3. Terms of Supply

It can be said that companies will need fewer funds within the scope of WC if their inventory supply is fast and sufficient. However, if the supply is seasonal or unpredictable, more funds should be allocated to the inventory. Investment in WC will fluctuate if raw material supply is seasonal.

4.6.4. Production Policy

Firms' production is affected by seasonal fluctuations in sales. Since the amount of production will vary according to these fluctuations, the need for WC will arise accordingly. In such cases, the sales unit of the companies may follow an off-season discount policy; so that sales and production can be distributed seamlessly throughout the year and excessive fluctuations in WC demand can be avoided.

4.6.5. Seasonal Transactions

It is not always possible to shift the production and sales load to the stagnant period. For example, in the case of the sugar mill, more WC is needed during harvest and production. It is obvious that companies that are open to cyclical movements and seasonal fluctuations need more WC. The most important reason is that the supply, production, inventory, sales, marketing and financing resources of enterprises are affected by the cyclical and seasonal fluctuations.

4.6.6. Availability of Credit

Companies need a certain WC to continue their activities and investments. To finance this, they need to keep money in their vaults or borrow from lenders. Companies with higher credit ratings need less cash if they can borrow locally to finance their investments. Also, when a firm's subsidiary is not able to borrow money at low interest rates, the parent company may need to hold larger cash balances (Hampton & Wagner, 1989, p. 3-9).

Firms that find loans from banks and suppliers on favorable terms and conditions will need fewer WC. If such facilities are not available, more WC will be required to avoid risk. Funders pay attention to the comprehensiveness of the collateral and the liabilities of the loans. For this, they demand the amount of collateral on assets that are greater than the liability. This makes it difficult for small firms to obtain loans.

Another situation is that the money required to finance inputs such as raw materials and labor required for production affects the purchasing and sales conditions. Receiving the loan provided for financing in cash or on a deferred basis causes the purchase and sale process to be cash or deferred. In addition, the length of the loan is another factor that affects this process and thus the amount of WC requirement. Since the loan length will affect the receivables turnover rate, the company's WC need for short-term transactions will be less than the companies that perform long-term transactions. Because, in long-term transactions, the need for WC will be higher as the funds of the companies are tied to the receivables. When companies that make long-term sales are compared with companies that make short-term sales, it is seen that long-term sales create more WC needs. It will be beneficial for the company to have a long term in purchasing transactions, such that companies that make long-term purchases will have the opportunity to allocate their receivables in a short time and keep cash in their hands before the debt becomes due, when they make their sales in cash or on a short-term basis. The company will easily realize its debts during the payment process when they are due.

4.6.7. Credit Policy of Companies

Firms want their sales to be cash primarily, but they have to turn to sales on credit in markets where there is a lot of competition. In credit sales, payments are only received after one or two months. In the first case, less WC is required than in the second. Credit terms are highly dependent on industry norms and sectoral markets, but firms also have some flexibility and discretion. To ensure this, the firm follows a rationalized credit policy based on customers' credit status and other relevant factors so that unnecessary funds are not tied to book debts.

A good credit policy; sound credit control policy and sales volume on credit, terms of sale on credit, collection policy, etc., includes factors. Receivables must be effectively controlled. Fast collection of receivables improves firms' cash inflow and reduces WC requirement.

4.6.8. Growth and Expansion

As a firm grows and expands, the need for WC increases. For example, if a firm opens an additional facility or store, it is obvious that this will increase the need for WC. This firm's sales will increase with its new location, but it is difficult to pinpoint the relationship between sales volume and WC requirements. Growth in business activities will further increase the need for WC funding. Obviously, this requires prior planning.

4.6.9. Change in Price Level

With the rise in the price level, more and more WC will be needed for current assets of the same size. The effect of increased prices will be different for different firms. Price changes are seen as a purchasing power risk and have different effects at each firm level depending on the operating cycles. Firms with high turnover are less affected by these changes, while those with slow turnover are more affected (Aksoy & Yalciner, 2008, p. 102).

4.6.10. Cash Conversion Cycle (Circulation of Working Capital)

Cash conversion cycle (CCC) is a composite measure of the average number of days required to convert a dollar invested in the purchase of raw materials into a dollar received from a customer (Stewart, 1995). Shorter net trading cycles or cash conversion cyles are associated with higher risk-adjusted stock returns (Shin & Soenen, 1998).

Eljelly (2004) found that CR is the most important measure of liquidity in terms of influencing profitability, which varies with the level of liquidity measured by CR, and however, in industries, cash conversion period as a measure of liquidity is more important than CR in influencing profitability (Eljelly, 2004). CCC is a popular measure of WC. The higher the WC investment, the longer the cash conversion cycle and vice versa. While a longer CCC may increase profitability by leading to higher sales, profitability may also decline with CCC if the costs of investing more in WC increase faster than the benefits of holding more inventory and/or providing more trade credit to customers (Deloof, 2003). However, these situations may change according to some factors and may become mandatory according to competition. For example, if competitors apply flexible policies in their receivables policies, the sales of the firm that does not apply may decrease. If there are competitors that pay early in debt repayment, it can force the firm to make their debt payments early because suppliers will prefer firms that pay early. Due to these and similar reasons, CCC may vary from country to country depending on the sector, economic conditions and geographical structure. When looking at a company, it may be necessary to examine the industry and market structure of other companies to say that the CCC is very high, regardless of whether the company is profitable or not.

By establishing a maximum turnover rate in investments made in current assets in the WCM, companies can generate sufficient profits. In companies with high current asset turnover, the requirement for working capital decreases and thus profitability will be achieved (Turko, 2002, p. 72).

4.6.11. Liquidity and Profitability

If firms want to take a greater risk for greater gains or losses, they reduce the size of the WC in relation to their sales. Increases the level of WC if it is interested in improving its liquidity. However, this policy is likely to result in reduced sales volume and thus profitability. Therefore, a firm must choose between liquidity and profitability and decide its WC requirements accordingly.

Adequate profits help generate cash. Cash is one of the current assets necessary for the successful operations of the production cycle. Firms always need a minimum level of cash to continue their operations. Cash has universal liquidity and acceptability.

There is a negative relationship between liquidity and profitability. According to risk theory, there is a positive relationship between risk and profitability. Increasing WC with sales will reduce risk and profitability on the one hand, and increase liquidity on the other (Niresh, 2012).

4.6.12. Ability of Management

Good coordination of production and distribution of goods can reduce the need for WC as a minimum of resources are invested in such things as absolute inventory and bad debt. Company policy affects permanent and variable WC requirements. Changes in credit policy, production policy, etc., appear to affect the level of WC (Boopathi & Leeson, 2016).

4.6.13. Stock Structure

The stock structure is also important in determining the WC needs of the companies. So much so that the stocks are seasonal, the supply type and duration of the raw materials, etc., factors have been observed. For example, a company operating in the textile sector needs to stock a certain amount of raw materials such as cotton in its warehouses for production. For this, cotton should be stored by supplying raw materials in August, September, and October if it is harvest time. Since this situation will affect the liquidity of the firm, the need for SWC to pay off its short-term debts will increase. Excess stocks cause storage expenses for companies, while reducing stock order expenses (Erdogan, 1990, p. 92). If firms have a high inventory turnover, their WC requirements will be low. With better inventory control, a firm can reduce its WC requirements. In doing so, it must first determine the minimum stock level that it should hold throughout the activity period.

4.6.14. Technological Advances

One of the factors affecting WC is technological advances. As it is known, textile started as a labor-intensive sector, but in time, it started to turn into a capital-intensive industry with high added value with the applications of the developments in the field of technology in the textile industry. In this respect, it can be said that every technological development has an impact on the WC of companies. Technological developments reduce production inputs and provide higher quality products. It is clear that this affects the sales of the companies. Profitability increases by shortening sales terms. Thus, the WC need can be met from this profit. In addition to all its advantages, it should be kept in mind that technological investments create a serious cost to companies (Aksoy & Yalciner, 2008, p. 105).

4.6.15. Tax and Inflation

Taxes and inflation are among the other issues that affect the WC needs of companies. Taxes have a negative and restrictive effect on companies. Taxes; it differs according to the structure of the companies; value-added tax, income tax, withholding, premium payments, etc. is deducted from the net income of the companies. It is seen that taxes have an effect on the financial policy decisions of companies. As a portion of the profit is allocated to tax payments, the portion of the profit that finances the WC decreases.

Another factor affecting WC is inflation. Inflation, which is expressed as the depreciation of money or the decrease in the value of money, is a continuous and perceptible increase in prices. Especially in countries with high inflation, firms have to keep more WC or may experience difficulties in paying current assets and short-term debts. In the case of high inflation, the problem of collection of receivables, increase in inventories, deterioration of the supply chain, and accordingly the need for higher WCs arise. In inflationary environments, the funds needed by firms to continue their activities increase.

4.6.16. Conditions of the Market

Market conditions are one of the factors affecting the level of WC elements. Some companies may have to offer their customers freer and more favorable credit sales opportunities in order to increase their sales in competitive markets. For this, it prefers to keep sufficient stock of finished products to supply its sales off the shelf to potential buyers and thus gain an edge over its competitors. It may also have to offer slightly liberalized credit terms in order to increase sales and withstand fierce competition. In this way, larger amounts of money can be blocked for a longer period of time with miscellaneous debtors. Therefore, additional inventory of finished products and a larger amount of sundry debtors may proportionally increase the amount of WC requirements (Mathur & Rangarajan, 2015, p. 144).

Managers are responsible for finances so that their companies can continue their activities, fulfill their obligations, and be successful; taking into account all these factors, effective WCM should be realized.

4.7. Methods Used in Determining Working Capital Requirement

The level of WC requirements for each firm varies based on many different factors. The management of these assets and resources should be effective. This situation not only reduces the liquidity risk of companies but also offers the opportunity to fulfill their short-term liabilities.

Companies carry out their normal activities in such a way that they can pay their short-term debts and minimize the risk of default. However, they avoid additional costs from unnecessary investments and want to maintain their profitability. Efforts are made to balance the company's liquidity and profitability with efficient and effective WCM. For this, the existing WC must be properly evaluated.

Current liabilities and liquid assets, which are an important part of the company's total resources and assets, must be suitably analyzed to manage WC requirements (Laghari & Chengang, 2019). Firms make certain investments in current assets in order to continue their commercial activities. In this context, finance managers work on the necessity of the WC and determine the amount of investment to be made under the WC. Because investing in WC more than needed leads to the emergence of idle funds. This situation will constitute a significant obstacle for companies to reach their targeted profitability. In the opposite case, investments decrease or firms cannot meet their obligations. As a result, firms fall into a risky situation and experience problems in their ordinary business activities. Therefore, a balanced WCM understanding in terms of liquidity and profitability is of great importance for companies to have a healthy financial structure (Timur & Korkmaz, 2021).

One of the methods used in determining the WC requirement is the operating cycle coefficient method. Accordingly, the WC requirement is determined by dividing the cost amount created by the sales of goods realized in a year by the operating cycle coefficient. (Guvemli, 1973, p. 35). Operating cycle coefficient is calculated by dividing to 365 the time needed for firms to finish their activities (operating cycle). This coefficient varies according to factors such as the actual annual working time and the period of activities. Since the actual number of days worked in a year is less, the operating cycle coefficient will vary accordingly. Since the actual activity period varies for each company, the WC requirement can be determined accordingly (Aksoy & Yalciner, 2008, p. 108-110).

Also, according to Hill (2010), working capital requirements are measured as inventory + accounts receivable-accounts payable.

The Mellerowicz Formula is one of the methods used to determine the WC requirement. WC requirement is determined by the formula. WCN= Ed (T3-T5) + Cd (T_1 +T2 + T4) (Guvemli, 1973, p. 44). The meaning of the symbols in this formula;

WCN= Working capital need

Ed = Daily raw material and equipment's the amount of expense

Cd = Daily cost amount

T_1 = Production time

T2 = Waiting time of products in stock

T3 = Waiting time of raw materials and materials in stock

T4 = Term given to customers

T5 = Term given by the vendors.

The need for WC can also be determined with the formula put forward by Schmallenbach. Accordingly, the amount of stock depends on the collection period of trade receivables from customers, the terms provided by the suppliers to the company, and the expenses incurred for the realization of the activities (Akguc, 2013a, p. 227). Its formula is shown below (Turko, 2002, p. 243):

$$WCR = I + 1 - \frac{pg}{100} \; . \; S.\frac{Cc - Cs}{12} + Oa.\frac{Cc}{12}$$

WCR = Working Capital Requirement,

I = Amount of Stock,

pg = Gross Profit Margin on Sales,

S = Annual Sales Amount,

Cc = Credit term given to customers,

Cs = Credit term given by sellers,

Oa = Annual Overheads.

WC requirement can also be determined through the Pro forma Balance Sheet. For this, financial statements from previous years are analyzed. With the data of the financial statements obtained from the previous period, the planning of the next activity period is carried out and financial decisions about the company can be taken accordingly.

Financial statements are the statements prepared to give information about the financial transactions of a business in a certain period and the economic resources and financial performance resulting from these transactions (Akinci & Unlen, 1988, p. 25). A proforma balance sheet is prepared in order to reveal the possible effects of non-financial factors by emphasizing the financial structure of the firm. This is a table of how the firm should be financially in future periods. It also shows the potential impact of financial decisions made at the firm. Therefore, the financing managers often apply this technique (Peker, 1979, p. 232). The proforma balance sheet, however, determines the financing requirements for the future periods to be greater proportions and wide timeslots. This means that the supply of resources needed is carried out. So firms don't have to go to capital increase often, and they don't have to owe long-term loans.

Another benefit of organizing a proforma balance sheet is planned for sales forecasts for later periods. Depending on the next volume of sales, it is decided what the firm's potential asset and resource status will be. The reality of the sales forecast is effective at this point. Different methods, such as the statistical method are used in the determination of sales forecasts (Tekin, 1996, p. 198). After the sales forecast is made and accordingly, balance sheet items are determined and calculated. And accordingly, how much additional WC requirement is determined for the next operating period.

It is clearly seen that the WC elements and the amount of investment to be made in this field have an impact on the profitability of the firm. In this context, policies and strategies should be determined by taking these factors into consideration at the WC level.

The correct determination of the WC requirement has a decisive function on the profitability of the firm.

4.8. Working Capital Strategies

WC is an important indicator of the financial status of companies. It can show whether companies can meet all of their short-term debts, such as salaries and supplier receivables, when they are due. The WC required by each firm will vary depending on the firm type and industry. For example, retail firms often need more WC because buying stock ties up their money until the stock is sold, which can take time. Small firms may be more difficult to obtain financing faster than larger firms, so more WC is required to run a small firm.

WC is a financial metric used to evaluate corporate liquidity. Firms should have sufficient resources to meet their short-term debts and liabilities and to pay their future expenses (Timur & Korkmaz, 2021). Appropriate WC must be available for this. This ensures the continuity of the firm's operations. It is possible to see a profitable firm go bankrupt because it cannot meet its short-term obligations when they are due. Therefore, the successful management of the WC is vital to ensure firm success and continuity of operations (Naser, Nuseibeh & Al-Hadeya, 2013). WCM is important as it affects both the liquidity and profitability of firms (Smith, 1973).

Excess investment in WC may result in lower profitability, and lower investment may result in weak liquidity. Financial management must trade between liquid assets and profitability to maximize the firm's profitability. Regardless of the size and nature of the business, for-profit or not, every organization needs the required amount of WC. Working capital is the most important factor for companies to maintain their liquidity, survival, solvency, and profitability. Financial managers' decisions regarding WC policy should be such that they answer the following three questions:

1. How much WC do companies need?

2. In what proportions will the WC be distributed to current assets?

3. With which resources will the investments to be made be met? (Sayilgan, 2017, p. 197-198).

Working capital strategies are divided into investment and financing strategies.

4.8.1. Working Capital Investment Strategies

While most companies increase or decrease working capital frequently, or even daily, they cannot continuously increase long-term capital. In fact, not every company has expert managers in providing funds in the long run, and they can get help from an investment finance expert, for example, on the intricacies of going public, as in cost-profit analysis (Keown et al., 2014, p. 26). However, getting support from external sources in short-term investments is not always a situation for every company, since managers are more experienced in short-term investments than long-term investments, especially since they are among their routine jobs. Nevertheless, their experience does not mean that short-term investments are trivial tasks that should not be managed. The level of working capital should be determined by the managers.

The financial manager's attitude towards risk plays an important role in determining the level of working capital. An aggressive policy leads to a high risk of working capital, while a prudent attitude minimizes working capital risk. In addition, working capital management is possible by assuming a normal level of risk between these two extreme behaviors (Aydin, Sen & Berk, 2012, p. 186). In addition, businesses in different industries choose different WC investment strategies (Mansoori & Muhammad, 2012).

4.8.1.1. Aggressive Investment Policy (AIP):

Contrary to the conservative strategy, a current asset structure is created by making minimal investment in cash, securities and stocks. This strategy, which offers the opportunity to increase profitability rates for companies, therefore also carries great risk compared to other strategies (Aydin et al., 2012, p. 186). Firms that adopt aggressive financing policy have low liquidity as their current assets investments are low (Das, 2015). In this investment policy, fixed assets are invested more than current assets (Nazir & Afza, 2009). The current asset to total asset ratio is used to measure the degree of aggression. A low ratio means that the company follows an aggressive strategy, as it means less current assets in total assets (Weinraub & Visscher, 1998).

4.8.1.2.Conservative Investment Policy (CIP):

A larger share of capital is allocated to liquid assets with less opportunity cost of profitability. If total assets are increasing in a firm, this increase is equal to the increase rate of current assets and fixed assets remain at the same level, it is said that the manager is more conservative when managing current assets. Because investing more in current assets, keeping the liquidity high and thus reducing the risk level is an indicator of a conservative attitude (Nazir & Afza, 2009).

4.8.1.3. Moderate Investment Policy (MIP):

The moderate strategy is between the two working capital policies and ensures that the working capital elements are kept at a size that has an average return on risk (Mansoori & Muhammad, 2012). In the middle of these two approaches is the policy aiming at the "optimal" level (Aydin et al., 2012, p.186). In Figure 4.4 WC investment strategies are shown:

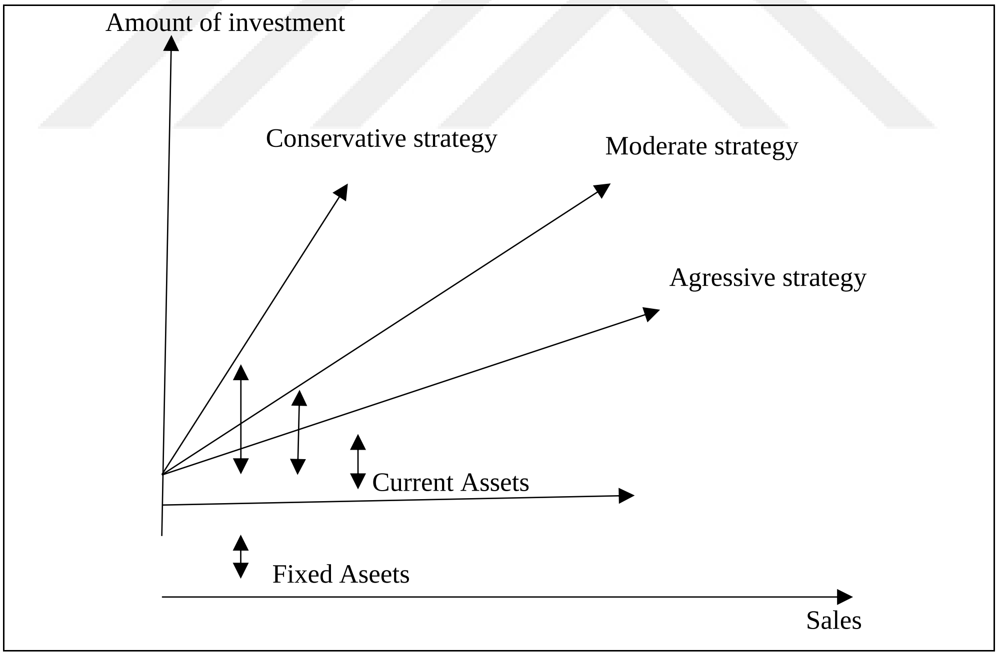

Figure 4. Working capital investment policies (Weston & Brigham, 1993, p. 366)

As it can be seen in Figure 4., the curve is quite steep, as there is a lot of investment in current assets in the conservative working capital policy. The liquidity of the companies that adopt this policy is quite high. When compared to firms adopting other policies, their risk attitudes are lower than others. Finance managers try to balance between the size of the risk to be taken and profitability while determining their WC investment strategies (Banos-Caballero, García-Teruel & Martínez-Solano, 2010). A balanced investment strategy with medium liquidity due to its current assets, and an aggressive strategy with less investment in current assets.

A firm that follows a conservative investment policy will have to bear a higher liquidity cost as it will hold more current assets. A firm that implements an aggressive investment policy may have to put up with the cost of lack of liquidity. In both policies, there are costs as well as profitability. This is a disproportionate feature of working capital management, which indicates that there is the likelihood of a non-linear nexus between WC and profitability, so a firm should examine overall likelihoods of financing the working capital required (Panda & Nanda, 2018).

4.8.2. Working Capital Financing Strategies

It can be argued that investment in WC is not the only factor affecting the performance of firms, and financing of WC may also affect firm performance (Altaf & Ahmad, 2019).

One of the fundamental questions for the financial success of companies is whether the current asset financing decision will be short-term or long-term. This is seen as a critical decision in financing decisions (Keown et al., 2014, p. 457-458).

WC financing shows which of the assets companies are funding with short-term liabilities. Firms determine the financing strategy they will follow depending on the ratio of short-term liabilities to total assets and the value obtained. When short-term debt is used to finance a long-term or perpetual asset, the debt may not be paid in the short-term because it will take a long time for this investment to generate profits for the firm. For this reason, companies are expected to finance their current asset investments with short-term debts and their fixed asset investments with long-term debts. However, factors such as increasing competition conditions, changing economic conditions, and the targets of the companies affect the risk levels that companies can take and thus their resource preferences (Filbeck & Krueger, 2005). For this reason, companies can follow various strategies in which they can benefit from different sources while financing their investments. The reason for the differentiation of these strategies is that working capital is divided into two as permanent and temporary. The part of the current assets that fluctuate, increase and decrease during the year is called temporary current assets, while the part that does not change is called permanent current assets (Van Horne&Wachowicz, 2008, p. 210).

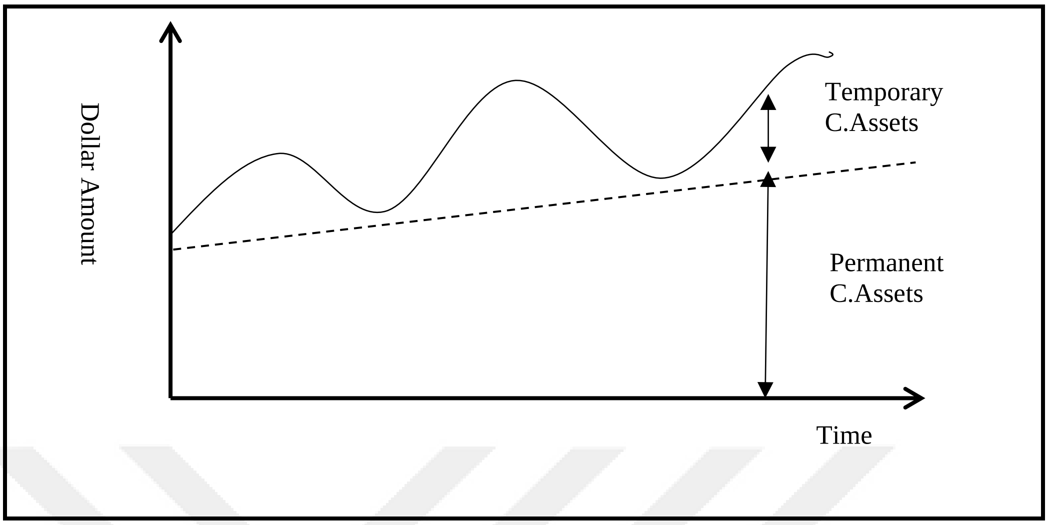

Figure 4.4. Working capital needs over time (Van Horne & Wachowicz, 2008, p. 210)

Fixed assets tend to expand continuously throughout the period, but a significant part of current assets increases at a constant rate and decreases in the remaining part. Due to the variable nature of working capital, it forces managers to finance it (Firth, 1976, p. 7-10). Firms can apply different financing strategies regarding their WC policies. There are three main financing strategies under WCM: moderate, conservative, and aggressive (Weinraub & Visscher, 1998). WCM strategies in a firm are illustrated in figure 4.6. below in terms of profit and risk:

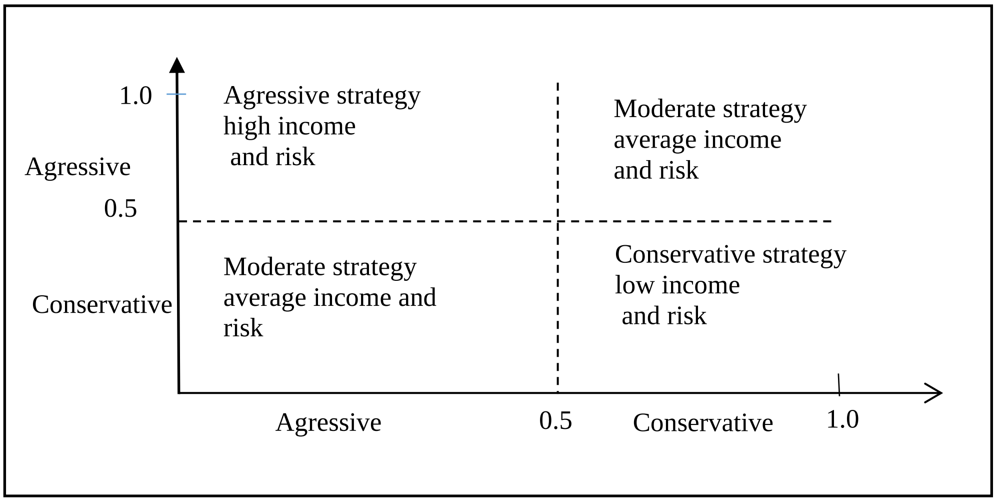

Figure 4.5. WCM strategies in a firm (Meszek & Polewski, 2006)

4.8.2.1. Moderate Financing Strategy (Maturity Matching)

According to this strategy, current assets should be financed using appropriate term funds. Current assets can be broadly divided into two classes: those required by a certain amount for a given level of activity that do not change over time, and those that vary and fluctuate over time. Temporary investments consist of short-term assets that will be liquidated in the current year. For example, a seasonal inventory increase is a temporary investment. Inventories are removed when they are no longer needed at the end of the season. Storage for stocks that must be available in the business every period is a continuous investment for long-term continuity in sales or to follow an upward trend (Keown et al., 2014, p. 459-460). Fund resources to be used in this context should be selected in accordance with these characteristics of current assets Timur & Korkmaz, 2021). In other words, current asset requirements that do not change over time should be financed with long-term funds, as in the financing of fixed assets. Temporary needs should be properly financed with short-term funds (Van Horne & Wachowicz, 2008, p. 212-213). It is generally accepted that short-term assets are always backed by short-term debt, while long-term assets are backed by long-term debt and equity. In this economic understanding, NWC is always zero (Ross et al., 2003, p. 160).

The following Figure 4.7 illustrates the moderate financing strategy (Pandey & Parera, 1997, p. 211):

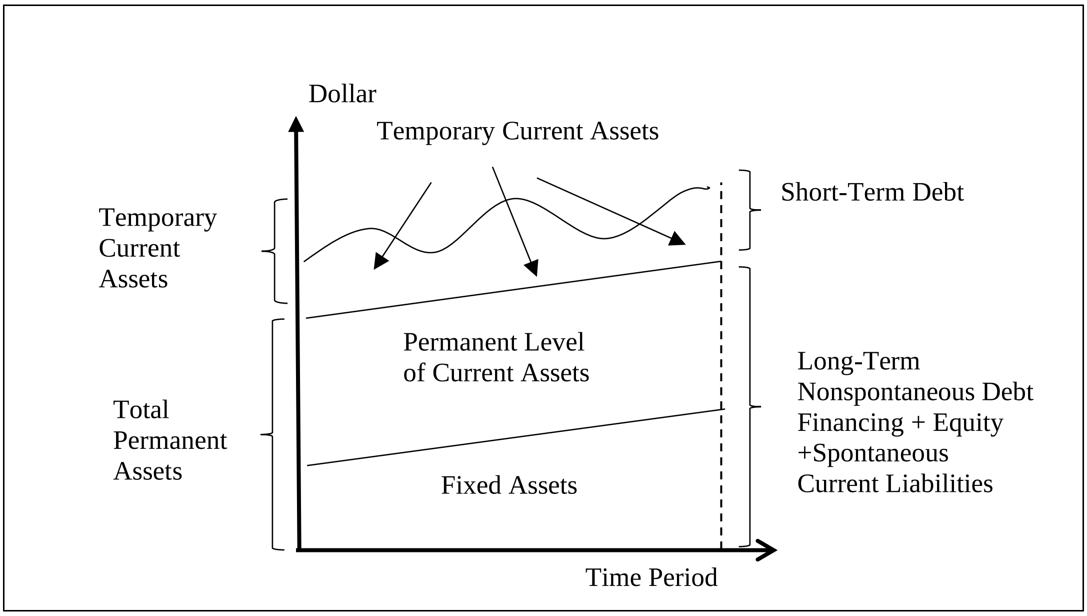

Figure 4.6. Moderate financing strategy (Weston & Brigham, 1993, p. 367).

In this strategy, since the NWC level is high, there is no problem in paying the short-term debts on time. This indicates that the risk attitude of the companies is low. A high level of NWC also indicates that the liquidity of the firm is high. However, funding of non-current assets and permanent WC elements with long-term debt results in high capital costs. Since the long-term borrowing cost increases the capital cost, a decrease in profitability can be observed (Firth, 1976, p. 109). The activities are carried out by raising all the funds needed to finance the WC from various sources. Financing conditions will thus be balanced and the funds obtained from different sources will be repaid. In this strategy, the liquidity risk is low, but this strategy requires more planning and effort and has a greater probability of profitability, lower profitability than the aggressive, riskier than the conservative, but low cost. Therefore, it leads to high profitability (Cercel & Sokmen, 2019).

4.8.2.2. Conservative Financing Strategy

In the conservative financing strategy, in addition to fixed assets, the necessary funds for permanent and variable current assets within the scope of WC are financed from long-term sources (Ceylan & Korkmaz, 2018, p. 273). The more cautious the financing policy of companies that prefer long-term financing, the higher the costs (Van Horne & Wachowicz, 2008, p. 212-213). It includes low risk and profitability (Paramasivan & Subramanian, 2009, p. 162) as it will reduce both the risk of the business arising from fluctuations in the interest rate of the long-term loan and the possibility of not repaying the loan (Nadeem & Waris, 2020).

In this strategy, short-term funds are used only in unexpected and urgent situations. From this point of view, financial managers reduce the liquidity risk ratio by keeping the risk in capital management at a minimum and reducing the profitability ratio (Poyraz, 2012). Thus, it will be easier to meet short-term liabilities. Longer-term loans with higher interest rates increase borrowing costs. However, another negative situation is that it can cause companies to borrow more than necessary (Nadeem & Waris, 2020).

Firms that adopt this strategy meet the continuous and fluctuating parts of their current asset investments and their fixed asset investments by using equity capital and long-term liabilities, as can be seen in Figure 4.8. below.

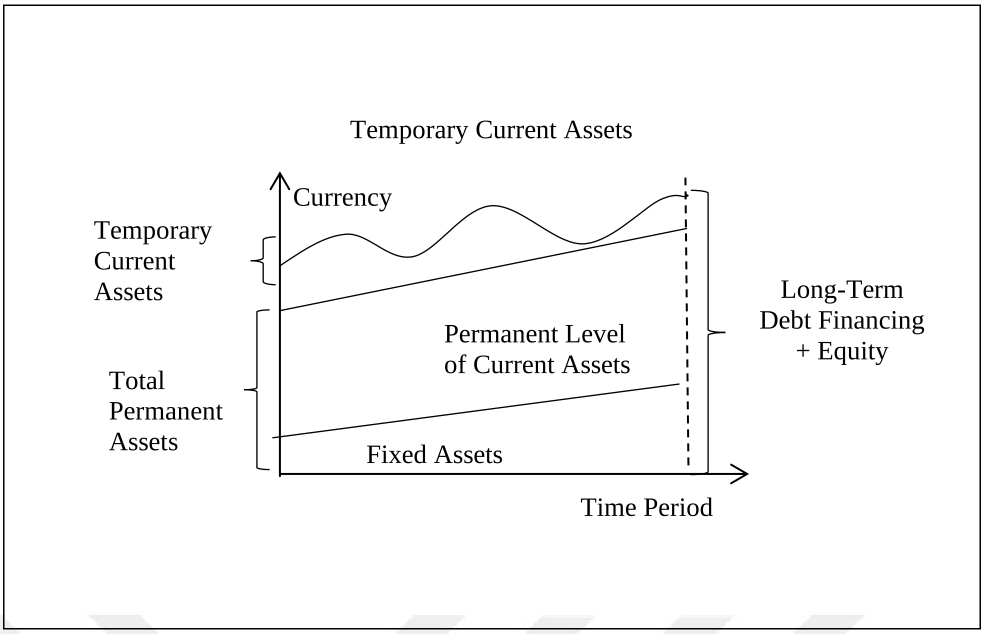

Figure 4.7. Conservative financing strategy (Okka, 2006, p. 183)

Short-term funds tend to have lower interest rates than long-term funds because the yield curve tends to rise due to the expectation that interest rates will rise in the long run. If a firm uses more long-term funds, it can meet the financing costs more easily and provide an interest advantage. In addition, using long-term financing resources protects against the risk of expiration of the loan in case of a deterioration in the economic conditions of the country or the financial situation of the companies (Baker & Gary, 2005, p. 160).

Companies that have a minimum amount of short-term foreign resources for extraordinary situations aim to minimize the risk factor by choosing long-term resources. It is a strategy frequently preferred by companies, especially in times of economic uncertainty. However, even if long-term borrowing reduces the risk level, it may have a negative impact on the profitability of the firm since borrowing costs are considerably higher than short-term borrowings (Turko, 2002, p. 221). Since these companies have high liquidity, the probability of a financing gap is low. Thus, companies that adopt this strategy by acting prudently will not be exposed to excessive borrowing costs, so their profitability is not affected much. As a result, companies that adopt this strategy prefer long-term financing in their current asset investments, so even though financing costs are high, their liquidity risks are low. The sound implementation of this strategy is possible in cases where the WC level of the companies does not fluctuate seasonally and occurs at a certain level every year.

4.8.2.3. Aggressive Financing Strategy

With an aggressive financing policy, short-term funds are used to finance not only current short-term assets, but also some long-term fixed assets. This policy not only carries the greatest credit risk but also maximizes profitability and increases shareholder value (Watson & Head, 2007, p. 71). Aggressive financing policies use higher levels of low-cost short-term debt and less long-term capital (Weinraub & Visscher, 1998).

The main objective of this strategy with higher risks is to maximize profits. Finance managers aim to increase profitability by taking more risks. With this approach, all of the variable working capital, some or all of the fixed working capital, and sometimes even fixed assets are financed from short-term sources. An aggressive effort to maximize profits results in lower cost capital and significantly higher risks. A moderate strategy, sometimes called hedging, involves moderate risks and moderate profitability. With this approach, fixed assets and fixed working capital are financed from long-term sources while variable working capital is provided from short-term sources (Hill, 2013).

In this strategy, which is financed by short-term funds of fixed and unchanging requirements for certain activities, excessive liquidity is tried to be minimized. Thus, the costs arising from long-term financing are also reduced to a lesser extent. The risk here is the possibility of failing to fulfill the obligations that will arise with the financing of short-term funds despite the possibility of higher returns and the possibility of bankruptcy. At this point, the important thing is to provide short-term funds as needed (Rehn, 2012, p. 10). In an aggressive policy, since less liquidity will be tied to existing assets, the profitability of the companies increases, but the risk taken by the companies due to the liquidity shortage or the possibility of being out of stock increases in parallel (Watson & Head, 2007, p. 70-71).

Firms generally minimize the size of the WC relative to the revenues they generate when they want to take a greater risk on the profit and loss balance; Although it is willing to improve its liquidity, it has been observed in studies that it raises the level of WC. However, this technique can tend to reduce sales volume and ultimately affect profitability. Therefore, a firm must have a striking balance between liquidity and profitability. To maintain high levels of profitability, firms may need to lose their solvency to maintain relatively low WC levels. As soon as firms start doing this, less money will be tied to idle WC, increasing their profitability and their solvency at stake. A firm may pursue an aggressive WCM strategy with low current assets as a percentage of total assets, or use high current liabilities as a percentage of total liabilities for the firm's financing decisions. Excessive WC reduces profitability, while low WC can result in lower liquidity and stockout, which can cause difficulties in maintaining smooth operations (Van Horne & Wachowicz, 2008, p. 210-213).

In general, current assets are considered one of the important elements of a firm's total assets. While a firm can reduce its fixed asset investment by leasing or leasing plant and machinery, the same policy cannot be followed for WC elements. The high level of current assets can reduce the liquidity risk associated with the opportunity cost of funds that may be invested in long-term assets.

Liquidity is a quality that expresses the capacity to meet financial obligations as and when required. The importance of liquidity when payment is due and in meeting current obligations cannot be overemphasized. Working capital management is the functional finance area that covers all current accounts of the firm. It deals with the adequacy of current assets and the level of risk posed by short-term debt. Efficient handling of firm liquidity gives positive insight into the firm as well as its success (Panigrahi, 2014). The aggressive financing strategy is shown in Figure 4.9:

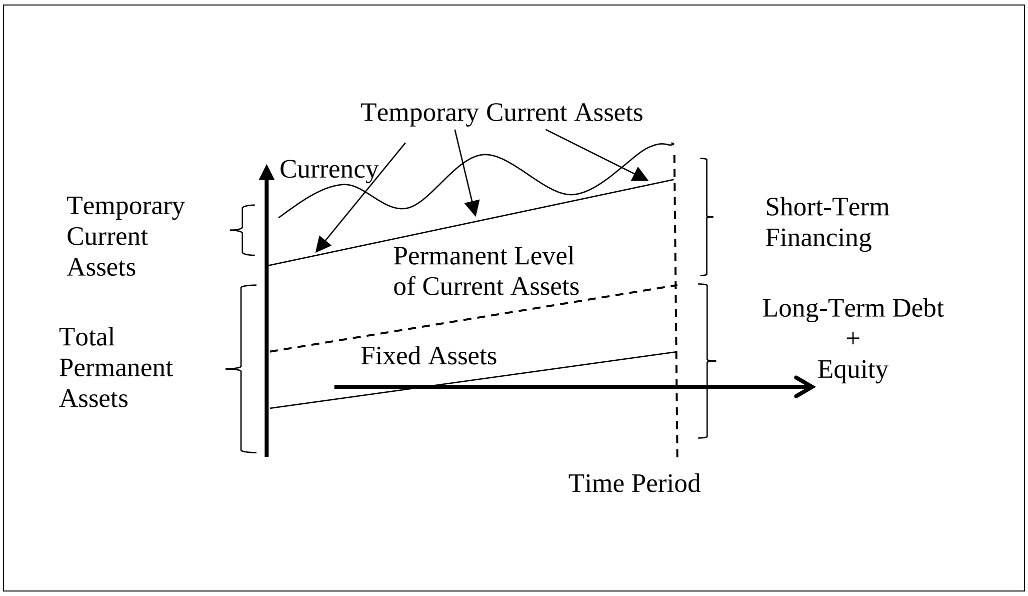

Figure 4.8. Aggressive financing strategy (Ozdemir, 2016, p.113).

Such firms mostly prefer short-term foreign resource financing, which has a lower cost than others. As can be seen in the figure, the financing of the investments made in the part of the continuous part and the floating part of the WC is covered by short-term funds. The increase in these funds indicates that the firm has become aggressive in its financing strategy. For this reason, the level of risk in an aggressive financing strategy is quite high (Das, 2015). Companies aiming to achieve high profitability with high risk adopt this strategy. It would not be right to prefer this strategy as it involves the risk of non-payment of short-term debts for companies in periods when the economy is stagnant (Sahin, 2011).

Although the aggressive financing strategy is low cost, it contains a large amount of liquidity risk for companies. Fixed assets are assets that cannot be converted into cash in a short time due to their nature. Investing in these assets with the use of short-term borrowings poses the risk of insolvency or even bankruptcy of the firm when due (Turko, 2002, p. 246). The company may run into financial difficulties if it takes out a one-year loan for its five-year investment. In case of payment difficulties, the lender may refuse to extend the loan, which may lead to bankruptcy.

4.9. Measures of Working Capital and Management

Working capital management metrics are vital tools that help any firm, regardless of size or nature, determine its financial position. These were created by examining studies in the finance literature. The important measures of working capital are given below (Timur & Korkmaz, 2021):

Liquidity Ratios	
Current ratio: Ability to cover short-term liabilities using current assets	Total current assets/total current liabilities (Current Assets/Short-Term Liabilities
Quick Ratio: Ability to pay off short-term debt using the most liquid of current assets	Cash+ Short-Term Investments+ Receivables / Short-Term Liabilities, [Current Assets – Inventory – Prepaid expenses] / Current Liabilities
Ratios Showing The Management Of Current Assets	
Receivable Turnover Rate: How many times a receivable account is created and collected during the period	Total Revenue/ Average Accounts Receivable
Inventory Turnover Rate: How many times inventory was created and sold during the period	Cost of Goods Sold/Average Inventory

Current Assets/Total Asset Ratio	Current Assets / Total Assets
Cash Conversion Cycle	
Inventory Period: Average time to create and sell inventory	Average inventories * 365/cost of goods sold 365/ Inventory Turnover Rate
Accounts Receivable Period: Average time taken to collect accounts receivable	Average receivables * 365/sales 365/ Receivable Turnover Rate
Accounts Payable Period: Average time taken to pay their suppliers.	Average payables * 365/cost of goods sold 365/ Accounts payable turnover ratio
Operating cycle	Inventory Period + Accounts Receivable Period
Cash Conversion Cycle	(Inventory Period + Accounts Receivable Period) − Accounts Payable Period
Capitalization Ratios	
Debt-to-Equity ratio	Total Liabilities / Total Shareholders' Equity
Long-Term Debt to Capitalization Ratio	Long-Term Debt / (Long-Term Debt + Shareholders' Equity)
Total Debt to Capitalization Ratio	Total Debt / (Total Debt + Shareholders' Equity)

4.10. Working Capital in the Textile Industry

WCM has important effects on company success and profitability for textile companies as in other sectors. This situation was observed both in the studies (Akbar, 2014; Khan, Akash, Hamid & Hussain, 2011; Sheikh, Rafique & Abbasi, 2016; Tufail & Khan, 2013) and also revealed in the analysis made in this study. Therefore, it is one of the issues that should be emphasized as much as it is financially important. In this context, the finance managers of textile companies aim to focus on the management of each of the WC items that concern financial management, to keep the WC at optimal levels, and to make the right investments. They try to continue their activities with sustainable profitability and efficiency. First of all, it is necessary to determine the WC level required by the companies.

The continuous increase in the world population leads to an increase in the interest and demand for finished and semi-finished textile products. These emerging demands increase the supply in the textile industry. In parallel with the differentiation of customer preferences and competitive market conditions, companies have started to give more importance to product variety and quality. In addition, reducing the costs of financing and production is another issue that gains importance in this process. In this context, examining the businesses in the textile industry in the light of innovative approaches, both practically and scientifically, has become an important issue that closely concerns the financial world within the scope of WCM (Burkhanov & Bakhodirovna, 2021). Effective policies are needed for the management of working capital, as textile companies can increase their profitability with efficient management and lowest cost financing (Asad, 2012).

Tahir & Anuar, stated that as a result of the effective management of WC in the textile sector, companies with short CCCs will prevent them from seeking external financing, they will borrow less, thus providing an interest cost advantage and therefore the profitability of textile companies will increase (Tahir & Anuar, 2016).

WC in the field of textiles; it varies according to the company's purpose and production activities. The assets specified in the current assets section of the balance sheet of the companies constitute the WC. It is usually covered by short-term funds. While evaluating and analyzing textile companies within the scope of WCM, answers are sought about how the WC of the companies in question is used, the health, success, and profitability of their financial structure, their ability to pay their debts and meet their obligations, their ability to obtain loans from funders, their investment capacity and liquidity degree.

It is extremely important for the economies of the countries to monitor the economic potential level of the enterprises, and improve the approaches to increase the economic potential of the textile enterprises, as the FFCs, which are developing countries and have an important share in textiles.

5. WORKING CAPITAL MANAGEMENT AND ITS EFFECTS ON THE COMPANY PERFORMANCE

5.1. Working Capital Management and its Financial Importance

Working capital management is carried out within the framework of the main objectives determined in line with the company's field of activity. To achieve these objectives, working capital funds must be used effectively and appropriately. Hence, plans are made and policies are created by financial managers. This process, which starts before an operating cycle, is a detailed and quantitative plan that will guide the company's activities in the near future on how to provide the funds needed, and how it will be used (Erol, 1991, p. 155). WCM can also be referred to as short-term financial management, as it relates to current asset and short-term debt management (Mathur & Rangarajan, 2015, p. 140).

Within the scope of WCM, which constitutes a part of the financial management of companies, the main purpose is to provide the cash flow needed to sustain the activities and to meet the operating expenses. In addition, it is to create policies and decisions to be taken regarding current circulating assets and short-term financing resources (Izadinia & Taki, 2010). Each firm's WC needs differ depending on several factors. Today, WCM refers to the management of resources and current expenditures to maximize shareholder wealth, which is crucial as part of the financial management obligation (Areias & Belytschko 2005).

Firms have not paid enough attention to WC in past years, instead focusing on local and global marketing strategies to raise and use debt and equity capital, select information and manufacturing technology to run operations, and sell products. However, the recent economic turmoil, especially the great recession that started in 2008, has forced companies to think about how to increase profitability, reduce costs and streamline their business processes (Sagner, 2014, p. 8). It can be said that this change in understanding was not only a necessary action but also a necessary transformation for companies to survive in this environment. Managers, who were aware of this, have devoted more time and thought to the WCM as necessary in order to continue the company's activities and survive. The importance of WCM becomes more evident, especially during periods of financial difficulties and global pandemic periods such as CoronaVirus-19.

Firms should have sufficient WC and manage it in the best way in order to continue their activities, achieve their profitability targets and provide competitive advantage against their rivals (Laghari & Chengang, 2019). In this respect, finance managers should devote enough time to effective capital management by giving due importance.

William Beaver, in his 1968 study “Alternative Accounting Measures As Predictors of Failure”, used financial ratios to predict financial failure and compared successful and unsuccessful firms. According to the results he found, he stated that while estimating financial failure, special attention should be paid to cash, accounts receivable and inventory, which are current asset items, and that managers should follow up to manage these three main items, since low cash and inventory and high accounts receivable can lead companies to failure (Gibson, 2008, p. 455).

WC has traditionally been seen as a positive component in running a firm. However, current assets which, do not contribute to the return of capital, disrupt the companies activities, hides the past unsold stocks and uncollectible receivables. The current focus is on reducing WC accounts to the point where short-term debt can be financed through the day-to-day management of firms (Sagner, 2014, p. 9).

In this section, by making use of the studies carried out in the literature, explanations will be made about "cash, receivables, stock, and short-term debt management", which is the main subject of WCM, and the relationship between the concepts of profitability and sustainable growth with WC and the financial performance measurement criteria of companies will be emphasized.

5.1.1. Cash Management

Firms carry out cash transactions every day in order to continue their activities in a cycle. For this, they constantly need cash. For example, cash assets are needed at every stage, from purchasing raw materials to paying taxes and workers' wages. Therefore, companies must have sufficient cash assets in order to continue their activities without interruption. It is important for every company to provide the necessary funds from appropriate sources for the financing of their activities.

In a world of perfect capital markets, having liquid funds is not important (Opler, Pinkowitz, Stulz & Williamson, 1999). Considering that there are no perfect capital markets; companies, like individuals, keep cash for reasons such as performing their activities, providing the necessary cash for their daily and future expenses, being cautious against negative and emergency situations they may encounter, being aware of future opportunities and making more profit (Keynes, 1964, p. 170).

As a general rule of finance, it is generally accepted to finance investments in current assets with short-term funds, and investments in fixed assets with long-term funds. Therefore, the management decisions to be taken regarding the WC are related to meeting the current assets from appropriate sources with shorter-term funds in this regard (Berk, 2015, p. 396).

Cash management, which closely affects the profitability and solvency of companies, is related to the cost of holding cash and meeting the cash need to meet the operating expenses and to provide the ready source that the companies may need to continue their activities. For this reason, companies always keep certain amounts of cash in their safes. Instead of investing a certain part of their profits, they keep it in cash (Onal, 1996). In this context, the main purpose of cash management can be defined as determining the cash holding level that will enable companies to continue their activities effectively and uninterruptedly and maximizing their market values and maintaining this level (Gokbulut, 2015, p. 221).

Cash is an asset for companies, where security and risk (theft, opportunity cost, etc.) are carried together, and since it is the most liquid asset, it can be used immediately to make payments, and its buyer can receive its value on the same day, and it constitutes half of retail expenditures (Cooper, 2004, p. 266).

The most liquid asset on the business balance sheet is cash. “Demand deposits in accounts, local and foreign currencies, checks, bonds, and policies” owned by the firm are accepted as cash. On the other hand, marketable and convertible securities such as treasury bills and financing bills are also called cash equivalents. The fact that companies have cash and hold cash in their safes has many benefits for companies. Thanks to cash, they have the opportunity to continue their activities, pay their debts in full and on time, cope with extraordinary situations, display a strong image, and improve their credit rating. In addition, they have ready funds to evaluate the opportunities that come their way.

Agency issues due to managers adjusting their cash adjustments in a way that is in their own best interests (Jiang & Lie, 2016) and transaction costs, cheap cash financing, limited access to external finance, and external capital costs resulting from information asymmetry can all be seen as other causes of money accumulation (Hall, Mateus & Mateus, 2014 ; Opler et al., 1999).

A phrase used all the time for cash in the business world is “cash is king”. Firms that do not have cash problems will have the advantage of discount in advance, the advantage of being a leader in competition, the advantage of being able to make the long-term investment they want, to provide confidence when they want to borrow, even to go to the debtors themselves for borrowing.

Exchange-traded firms have easy access to capital markets, while private companies are limited and face financial barriers to finding external financing, so they hold more cash than publicly traded companies. Firms in underdeveloped countries have more cash in order to protect themselves as a buffer, taking into account financial obstacles, and they have more cash reserves compared to developed countries (Hall et al., 2014). Another view is that firms with the most access to capital markets tend to hold less cash or have cash and similar assets. However, besides the advantages of holding liquid assets, there are also disadvantages such as liquidity premium, inability to gain tax advantage, opportunity cost, so there is no optimal cash amount for a firm whether it is listed on the stock exchange or not (Opler et al., 1999). Therefore, each firm manages its cash according to its short-term and long-term needs according to its field of activity, economic conditions, ease and difficulty of finding financing.

Cash management in group companies, holdings and multinational companies is different from other businesses (Aydin et al., 2012, p.173). According to various company and country-specific conditions; A company's position, wealth, political and financial risks, investment and financing opportunities, human capital allocation, accounting methods, dividends, foreign exchange controls, interest rates, taxes and management fees affect capital returns and cash flow distribution (Collins & Shackelford, 1997). In this context, if a firm has more than one branch in national and international dimensions, cash management will gain a wide dimension like other elements of working capital, so its management will require more attention.

In particular, the increase in the number of multinational enterprises in the world has developed international trade, which has led to the formation of large cash flows and the need for liquidity to gain a global dimension. As a result, multinational companies have started to create cash management systems (Wundisch, 1973). The aim here is to prevent and regulate excess or insufficient cash formation, and especially to evaluate the exchange rate and interest rates, and to borrow or invest accordingly.

In practice, there are different liquidity and cash flow models that reflect the structure of a centralized company and a centrifugal company. In central cash management, cash is managed from a single center while operational expenses and collections are handled by the local company. Cash management in multiple currencies is done from a center. Firms in these regions act in accordance with the rules of liquidity management at the center. This model is most suitable for the optimization of interest expenses. The model also provides local businesses with the opportunity to obtain funds from company resources at the headquarters. When cash management is completely centrifugal, each unit or branch must have a certain cash position operationally. It should be noted that excessive centrifugation does not take into account economies of scale and synergy effects (Aydin et al., 2012, p. 173).

Cash management means forecasting and controlling a firm's cash inflows and outflows. It also includes financial decisions such as determining the appropriate level of cash that firms should hold, managing investments in convertible securities, as well as WC investment decisions (Gokbulut, 2015, p. 219).

The important thing for cash management is to receive your money earlier, to use that money better when you receive it, and not to pay it too early. The principle of effective cash management is to use all the money in the firm as much as possible and not have idle cash (Dalton, 2007, p. 116-117). In cash management, there are cash ratios that companies must set, and it is costly to adjust them. If the cash ratio is below the firm's target level, investments that bring insignificant costs to the firm can be reduced or increased by raising new capital. But even if the cash ratio is above the target, the excess cash left by the business can be used to pay off debt or distributed to shareholders as dividends, which creates a cost for shareholders who will have to pay taxes because the dividend income is considered capital gains. (Jiang & Lie, 2016). For these reasons, cash management should be managed effectively.

It is obvious that companies that cannot establish good relations with their suppliers have to hold more cash (Itzkowitz, 2013). Charles Dunstone, who made Carphone Warehouse a billion-pound business and helped it grow rapidly, said: “You have to be a good partner to your supplier. Getting started, I think that was the biggest lesson I learned. Basically, we use our suppliers' cash flows before we pay them. We financed our business by selling goods, suppliers are the cheapest working capital you can have. That's why you need to persuade your creditors to finance your business and talk to them to do it. You have to build a good relationship with them so you can negotiate payment terms which gives you time to sell your inventory before you have to pay. In other words, using credit from your suppliers for payments is the most ideal for short-term borrowing," he said, and his tremendous success is proof of this (Dalton, 2007, p. 95-96).

Other reasons for cash accumulation include agency problems, transaction costs, low-cost financing source of cash, limited access to external resources and external capital costs created by information asymmetry (Opler et al., 1999). Liquidity risk, closely linked to financing risk, results from insufficient financial resources to meet the daily fluctuations in WC and cash flow (Cooper, 2004, p. 6).

The main objectives of cash management are (Gokbulut, 2015):

Minimizing the time required to convert receipts into usable bank funds

- Concentrating funds in a central account where they can be managed most effectively
- Controlling and minimizing the cost of payments
- Reducing or eliminating debts.

It is obvious that financial managers manage the cash in the firm's vault during a certain and limited period of its operating cycle. The amount of cash, which has an important place among the WC elements, provides the necessary liquidity at every stage of the operating cycle, and cash assets are needed at many points from purchasing raw materials to production, sales and marketing processes, as well as payment of workers' salaries. In this context, it is seen that it is directly related to the effective and efficient use of WC. Therefore, it can be said that cash management is not only a matter of concern to financial managers, but every manager working in companies is a "cash manager." In summary, cash is a necessary element for every business and transaction that takes place in the operating cycle of companies. Therefore, it can be stated that cash is the lifeblood of business management for every company (Cooper, 2004, p. 265).

Firms perform cash management with financial analysis, planning, and control. Within the scope of cash management, first of all, the cash needs are determined by estimating the financial plans that are prepared on a daily, weekly, monthly, and annual basis. In addition, efforts are made to use the funds appropriately, to control cash payments, to shorten the collection period of receivables and to extend the maturity of debts as much as possible. Furthermore, companies that do not want the value of their money to depreciate due to inflation prefer to invest their excess cash in various securities or short- or long-term investment instruments such as repo.

In this context, the cash that the firm will need is determined in advance by analyzing the cash cycle. The WC requirements of the companies, the cash inflows and outflows for the operating period are determined by the cash budget technique and the future payments are planned (Erdogan, 1989, p.13). Cash management plans are carried out by determining the sales and cash inflows, payments related to short-term debts and cash outflows. This created budget allows companies to provide cost-effective funds that they will need during their activity period and to make the best use of cash.

The funds provided should be used in a way that will provide profitability to the firm. More or less cash than needed should be kept in the firm's safe. This situation does not provide profit to the company as well as reducing its profitability and leading to financing costs. For example, while the cash in the cash register does not bring any income to the company, the cash deposited in the deposit deposited in the bank provides a certain interest income.

Therefore, a balanced cash management should be exhibited with good planning. For this reason, cash management ratios such as cash conversion period are used. Thus, optimum harmony between the payments and the amount of cash is obtained by determining when the company will need more cash (Alexander, 2018, p. 405). Cash management ratios are listed below (Rogers, Leuschner & Choi, 2016):

Cash Ratio:	=	*Cash + Cash Equivalents / Current Liabilities*
Cash Turnover Ratio	=	*Revenue / (Cash + Cash Equivalents)*
Cash Conversion Cycle	=	(*Inventory Period + Accounts Receivable Period) − Accounts Payable Period*

When evaluating the ratios obtained from these calculations, a high “cash ratio” leads to the conclusion that there is unnecessary cash rather than needed. Keeping the provided funds idle in liquid assets without investing indicates that the profitability of the companies is adversely affected.

The cash ratio is obtained from the rate at which the overdue debts can be paid only with cash and similar assets. If the cash ratio falls below 0.20, it is understood that the firm's ability to pay its short-term debts is low (Roswinna, Febrian, Agustina, Yulianti & Lasminingrat, 2020).

The cash turnover rate is related to the return of the amounts tied to cash and similar assets by the companies. It is used to measure how often a business cashes in its sales revenue. Finally, the cash conversion cycle developed by Richards and Laughlin (1980) as can be seen from the Figure 5.1. below, emerges as a result of the conversion of companies' inventories into sales, the collection period of their receivables and the payment period of their commercial debts (Ross et al., 2003, p. 750-751). In other words, the cash conversion cycle is the length of time until the cash used for production returns to the firm's cash desk after the product is sold. The fact that this period is short can be understood that the cash that the company has and the investments made in the WC turn into cash in a short time.

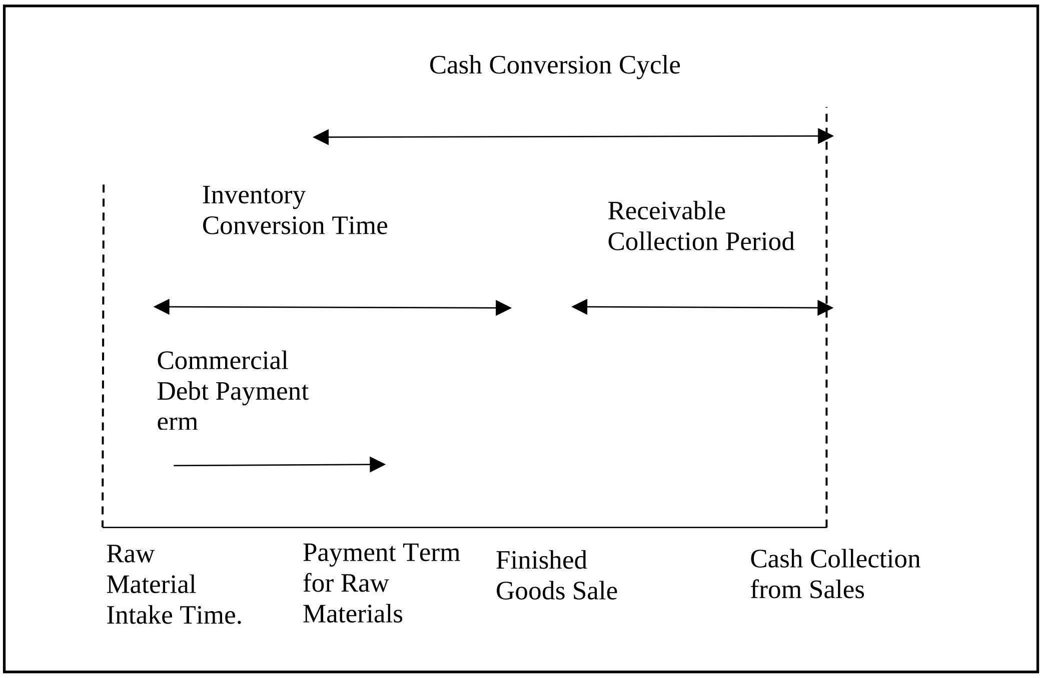

Figure 5.1. Cash Conversion Cycle (Brealey, Myers &Allen, 2016, p. 765)

Figure 5.1. also shows the operating cycle of a company. CCC is used to measure the liquidity requirement of the firm throughout its operating cycle. The extension of the inventory and receivable turnover periods in the formula means that the cycle is extended even if the debt payment period remains constant. Companies that have problems with the collection of receivables or with the sale of inventory will also have difficulty in paying their commercial debts on time. In addition, CCC is extended if commercial debts are paid in a short time. Companies that pay their debts early increase the cash deficit. The extension of CCC in the face of such situations is considered as a deterioration in the liquidity situation of the firm. Therefore, the prolongation of CCC leads firms to seek external financing sources (Moss & Stine, 1993). The longer the CCC, the higher the WC requirement. A lower CCC reduces the need for WC financing. Thus, the financing costs that arise from the need for credit are also reduced. Especially in today's inflationary environment, it can increase the reputation of companies, especially since cash is very important.

5.1.2. Accounts Receivable Management

Accounts receivables management covers all trade and non-trade receivables of the firm, but it is mostly related to trade receivables. The rights arising from the forward sales of the companies and the credit given to their buyers are called trade receivables (Akin, Onat, Eser& Dalgar, 2015, p. 285-304). Trade receivables with a maturity of less than one year are recorded in current assets, and trade receivables with a maturity of more than one year are recorded in fixed assets.

Sales are made either in cash or on credit. Firms can either adopt a cash sales policy, which increases their liquidity and strengthens their debt repayment ability, or they can turn to a credit sales policy (Dayi, 2015, p. 242).

The main purpose of receivables management is to maximize the current value of the company by collecting the receivables within a certain period of time (Pandey, 2015, p. 681) With the credit policy determined for this, credit conditions that will attract customers and suitable conditions are created and sales are expected to increase. Although it has a positive effect on the profit and return on capital of the firms, it is clear that this policy affects the cash flow of the firms. This requires a balance between sales and cash flow (Dayi, 2015, p. 250). Credit sales policy is a preferred sales policy, especially in markets where cash sales are reduced and competition is intense. Companies that adopt this sales policy can also increase their net worth today and increase the number of customers.

With credit sales, the receivables of the companies will increase. In this case, the value of the receivables depends on the short collection period. However, there is a risk of late collection or non-collection of receivables. Because this situation may create additional costs to companies and cause direct losses (Brealey et al., 2016). For this reason, the decision to sell to which customers and for how long is a factor that directly affects the profitability of the companies (Kontuš, 2013).

Although there are certain risks, it is possible for companies to increase their sales and sales profitability rates within the framework of an effective management approach. The fact that the profit obtained is higher than the additional costs incurred is significant in terms of increasing the value of the firm. It is observed that the cash inflow and profitability of companies that can manage their receivables with a correct collection policy have increased. Therefore, accounts receivable management is very important in credit sales. An effective management, taking the sales volume into account, sales price, credit conditions in the sector and the financial situation of the customer, not only reduces the risk of receivables, but also protects companies from high costs that may arise. In credit sales, receivables should be followed up continuously. The higher the receivables, the higher the WC attached to the receivables. Therefore, customers should be encouraged to repay their debt before maturity.

Companies that do not make sales on credit will not be able to have the additional income that this will bring in this case. The policies followed for this can be revised and rearranged. For example, the inventory level can be increased. In this case, companies need cash. If the companies have enough cash, they can supply their inventories at a discount, but if they procure on credit, the inventory cost will increase as there will be a maturity difference. In addition, it protects companies by preventing cash assets from being spent on unnecessary inventories and uncollectible receivables. However, in a highly competitive environment, companies with a strict collection policy run the risk of losing their customers (Akguc, 2013b, p. 261-262. The receivable management process is given in Figure 5.2 below:

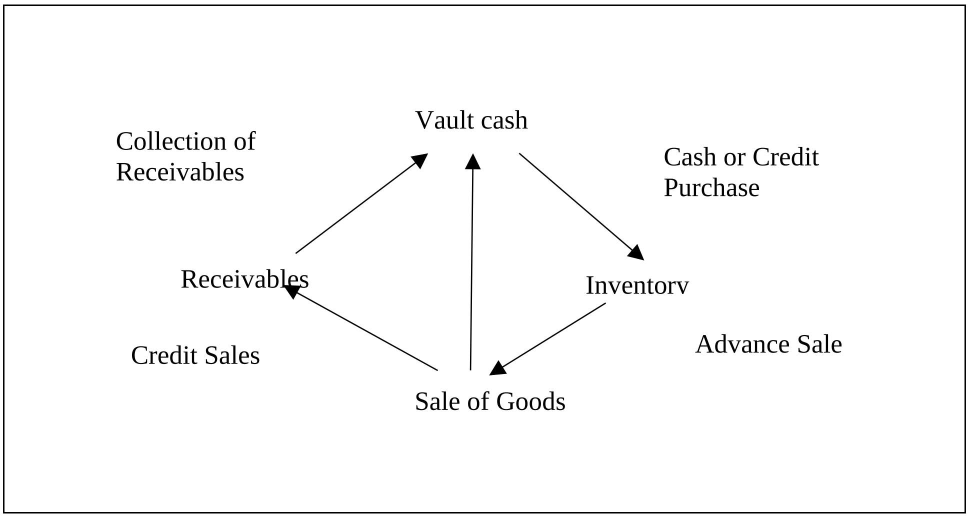

Figure 5.2. The receivables management process (Dayi, 2015, p. 264)

As seen in the figure, first of all, goods are purchased in cash or credit in order to make sales. If there is enough cash and there is a cash purchase discount, cash purchase is preferred; otherwise, credit purchase is preferred. Sales are made according to the availability of goods transferred to the inventory account. In advance sales, there is an outflow of goods from the inventories and the cash received is put in the safe. In credit sales, the sales amount is recorded in receivables. Overdue receivables are collected.

Various indicators are used in tracking receivables. The receivables management ratios are as follows (Akguc, 2013a, p. 44-49):

Receivables Turnover Rate	=	*Net Credit Sales / Average Accounts Receivable*
Average Collection Time of Receivables	=	*365/ Receivables Turnover*
Ratio of Trade Receivables to Total Assets	=	*Total Receivables/Total Assets*
Ratio of receivables to current assets	=	*Trade Receivables/ Current Assets*

The ratio that shows the number of times trade receivables are returned in an operating period is called the "receivables turnover rate". This ratio indicates how fast sales on credit are returned to the firm. The higher the ratio, the more receivables are transferred throughout the year. This shortens the collection time. An increase in this ratio indicates that the company is successful in the collection of receivables and has the ability to pay its short-term debts (Gorczynska, 2011).

The ratio that indicates how many days on average a company can collect its receivables is referred to as the "average receivables collection period." The shorter the average receivables collection period, the faster companies turn their receivables into cash.

The ratio of "trade receivables to total assets" shows the ratio of investments in trade receivables to all investments in assets of firms. A high ratio indicates an increase in capital tied up in receivables. The "ratio of trade receivables to current assets" shows the share of trade receivables in current assets and the associated opportunity costs. The higher both ratios are, the higher the trade receivables and the longer the company's payment cycle (Ceylan & Korkmaz, 2017, p. 294). Undoubtedly, companies want these ratios to be low so as not to disrupt their sales policies.

5.1.3. Inventory Management

Inventories are the assets that are necessary for production but have the least liquidity among the current assets of a firm (Richards & Laughlin, 1980). Basically, inventories held for production and sale make up a significant proportion of total assets. However, this situation has started to change today, and it is seen that some companies in the world and in Turkey are working without inventory (T.C. Kalkinma Bakanligi, 2014).

For many companies, inventory is important to manage as it is an essential resource required for day-to-day operations. In the simplest terms, inventory management deals with questions such as how long the business will hold inventories and how much and how often to reorder (Mercado, 2007, p. 1-2). Within the scope of WCM, it is imperative for a company to have sufficient and timely inventory to be successful and grow (Panighari, 2013). The most important factor for inventory management is demand. It is impossible for businesses to determine an exact demand level, if the demand amount was known with certainty, there would be no need for stock management (Mercado, 2007, p. 1-2). Businesses that make demand forecasting within the scope of stock management and do not operate without stock will eliminate the risk of losing sales. In addition, determining a safety stock according to demand variability will provide a buffer to businesses. Thus, the business will protect customer value and increase its financial success (Radasanu, 2016).

In line with the objectives of companies such as increasing profitability and market value, it is to reduce the cost of raw materials by keeping sufficient raw materials, semi-finished products, and products at a certain level with inventory management and to create a production flow at a certain level as planned. On the other hand, it is to prevent the emergence of excessive production and storage costs. For this, it is necessary to determine the appropriate inventory level, which reduces the inventory cost and increases the profitability obtained from sales, and the expenses related to the inventories should be calculated.

There is a very important relationship between inventory and cash. Therefore, effective inventory management means better cash flow for the business (Mercado, 2007, p. 6). Within the scope of inventory management, first of all, raw material procurement is met with appropriate credits and inventory is purchased from suitable suppliers. The inventory level is determined by factors such as the production capacity of the companies, seasonal developments, supply of raw materials, sales level, and storage possibilities. The costs that may arise related to these can be listed as follows: order and purchase expenses, expenses required by keeping inventories and expenses caused by not keeping sufficient inventories (Dizkirici, 2015, p. 242).

It is aimed to minimize the cost ratios with an effective and balanced inventory management. So much so that insufficiency of inventory can lead to more costs than the costs of inventorying. Because the disruption of production may cause negative consequences such as prolongation of the activity period, failure to deliver orders on time, which puts more burden on companies and reduces profitability. Overinventorying also carries different risks for companies. Because inventories are working capital assets that have low liquidity and can hardly be converted into cash. Therefore, it may take time to eliminate the damages that may occur with a bad inventory management (Brealey et al., 2019, p. 587-589).

Firms want to have a sufficient amount of inventory at the right time with minimum cost with inventory management. Therefore, they focus on maximizing the difference between the income to be obtained from inventories and the expenses to be allocated to holding inventories. Companies that are successful in inventory management can increase their profitability as they do not have difficulty in meeting customer demands. The formulas for inventory management ratios are given below (Alexander, 2018, p. 413):

Inventory turns	=	*Cost of Goods Sold (COGS) / Inventory*
Days Sales of Inventory (DSI)	=	*365 / Inventory Turns*
Inventory to assets ratio	=	*Inventory / Total Assets*
Ratio of Inventories to Current Assets	=	*Inventory / Current Assets*
Inventory to Working Capital Ratio	=	*Inventory / Net Working Capital*

Inventory turnover rate, which is one of the productivity indicators in WCM, indicates how many days the companies can convert their inventories into sales in an operating period. Therefore, the high inventory turnover rate indicates that the company can easily convert its inventories into cash. However, this also means that the firm is operating with a low level of inventory. Although this has positive reflections on the profitability rate, it is a high-risk method. Because in this case, there may be a possibility that the companies will not be able to meet the production and sales. A low DSI also indicates excessive inventory or inefficient use of inventories. It also indicates poor management in marketing and sales (Sagner, 2011, p. 113).

The shorter the conversion time for inventories to sales, the longer the operating cycle. In this way, it is understood that the inventories are processed in less time and turn into cash with sales, eventually, inventory is re-purchased and the inventory turnover rate increases. The ratio of on-hand inventories to current assets that make up the WC is also a measurement used in inventory management, and is evaluated together with the sales size. A high ratio indicates that the company's sales are not at the desired level and that there is excess inventory. The ratio of inventories to total assets is interpreted similarly to the ratio of inventories to current assets.

The high ratio of NWC to inventories, which meets the density of inventory investments in the NWC, indicates that the sales are low. This situation reveals that inventory and therefore cash management is ineffective. The inventory level that will ensure continuous production, reduce costs, and increase cash flow should be determined in advance. In addition, lead times in production should be reduced to reduce Work in Process (WIP) and similarly, products should be kept as low as possible to avoid overproduction.

5.1.4. Short-Term Liability Management

Debt management is the management activities carried out in the period from the acquisition of the debt to the payment of the principal and interest and the complete closure of the debt (Ince, 2001, p. 327). Within the scope of the WC, it includes the relationship between a firm's short-term assets and short-term liabilities.

Firms finance all their investments by providing equity and foreign funds. When CCC is taken into account, it is necessary to have a financing fund on appropriate terms. Inventories are funded by credit from the appropriate supplier, but it may be necessary to use a bank loan (or overdraft) or to " convert debts into cash " through factoring.

Firms prefer to use foreign funds rather than equity capital in their investments because they want to take advantage of the leverage effect of debt. The leverage effect is that using foreign funds yields a higher return than the borrowing cost. Maturity length and interest rate play a decisive role on borrowing cost. Short-term foreign funds are generally used in current asset financing within the scope of WC. However, due to its short maturity, cash management and operating cycle are critical (Dermine & Bissada, 2007, p. 108). The management of short-term foreign funds is measured with various ratios. These are (Ceylan & Korkmaz, 2017, p. 53):

Short-Term Debt to Ratio	=	*Current Liabilities / Total Liabilities*

This ratio indicates the maturity structure of debts and the financing policy of assets. Higher values indicate that the firm takes on shorter-term borrowings.

Accounts Payable Turnover Ratio	=	*Cost of Goods Sold/ Average Payables*

It expresses the number of times the investments made with short-term foreign funds are converted into sales in an operating period. High values indicate that short-term debt is used efficiently.

Accounts Payable Period	=	*Average Payables * 365/Cost of Goods Sold ,* *365 / Accounts Payable Turnover Ratio*

It expresses how long it takes the firm to pay its short-term debts. Low values indicate that short-term debt is used efficiently and investments are converted into sales and cash in a short time. In this case, it can be stated that the company will not have difficulty in paying its short-term debts on time and its credit rating is high (Akguc, 2013a, p. 36-38). Debt turnover rate usually shows how many times commercial debts are paid in the period specified in years. What is meant by the debt turnover rate is not financial debts, but commercial debts of companies.

5.2. Concepts of Profitability and Sustainable Growth

Every company carries out its activities with the aim of increasing its profitability with the least amount of resources and maintaining its performance at the highest level, as required by its founding purpose (Arifeen, Hussain, Kazmi, Mubeen, Mughal & Akbar, 2014). In this context, profit is the positive difference that emerges by deducting all expenses and costs from the profit obtained as a result of the company's activities, and the concept of profitability is the ability of companies to earn profits (Alsu, 2017). Although the concepts of profitability and profit meet different things, they are considered as monetary indicators of whether companies generate income as a result of their periodic operations and sales. While profit is a definite and clear indicator in the financial statements of the companies, profitability is a relative indicator that can be determined by the data obtained from these statements of the companies. In other words, it is the ability to earn a return on investment/spending (Nishanthini & Nimalathasan, 2013). It is also effective in strategic decisions, ensuring competitiveness and protecting the interests of shareholders (Decemrie, 2011).

The most important basic goal for the success and growth of a company is profitability. Profitability, which is the ratio between profit and cost, is related to the firm's efficiency in using resources. In order to achieve profitability, first of all, it is necessary to ensure efficiency, which means that product sales prices are higher than costs (Pekuri, Haapasalo & Herrala, 2011; Grifell-Tatjé & Lovell, 1999). Firms' performance is mainly measured by measures based on productivity and profitability indicators (Walters & Laffy, 1996, p. 198).

Profitability of companies can be determined by evaluating its efficiency, effectiveness and risk dimension during operational periods. Profitability is more meaningful than the concept of profit, as it is expressed in terms of ratios. The profitability ratios, which are considered as the measure of the success of the companies as a result of their asset investments, are determined by the following formulas:

Return on Assets	=	*Net Income/Total Assets*

The ratio that indicates the rate of profitability by using a unit from the assets included in the assets of the companies is called the asset profitability ratio. This ratio, which is measured by the ratio of net profit to total assets, indicates how effective the assets owned by the companies are in generating profits. High values indicate that the firm's assets are used effectively and that the investments made are accurate and profitable (Pinches, 1996, p. 589).

Return on Equity Ratio	=	*Net Income /Average Shareholders' Equity*

This ratio, which is found by dividing the net profit to the equity capital, indicates the rate of profitability of the partners over one unit of capital they have in the company. The fact that it has increased compared to previous periods and has high values means that its profitability has increased and the capital is used effectively (Vishwanath, 2007, p.183).

Profitability ratios show how successful the companies are in reaching the targeted profitability and the relationship between the income obtained as a result of the activities and their financial resources. However, sometimes profitability is not enough to show the success, performance or efficiency of the company (Roghanian, Rasli & Gheysari, 2012). For example, a firm may have made a profit during its operating period, but this may have been due to various external factors such as price fluctuations or speculation, or vice versa, the financial statements of firms with efficient production processes may appear to be harmed due to internal or external factors. In such cases, it can sometimes be misleading to make meaningful inferences and comments on the success and profitability of companies based on profitability ratios. Another point is that the profitability ratios should be evaluated together with the sector averages in which the companies are located or the profitability ratios of similar companies (Duplat, 2004, p. 95). For example, in a situation where other companies in the same industry make an average of 30 percent profit, it cannot be concluded that a company that reaches a profitability value of 5 percent is successful because it does not make a loss, and that operational efficiency is achieved.

Sustainable growth conceptually means continuous growth in the financing and organizational structure of companies. Sustainable growth is closely related to the survival, success and profitability of the firm. It is also thought that the rate of profitability and the market segment in the sector will increase with the growth. Thus, the firm becomes attractive to foreign investors and lenders (Frolova, Borisova & Lazarev, 2020; Rahim, 2017). It is seen that sustainable growth has become more important for companies in an environment dominated by competitive markets all over the world (Mukherjee & Sen, 2019).

Sustainability is one of the important topics that attract attention in the field of finance (Maciková, Smorada, Dorˇcák, Beug & Markoviˇc, 2018). Every company maintains and develops its business flow in line with its organizational goals, as well as maximizes its wealth and aims to achieve sustainable financial. Company profitability is an important force at this point (Cantele & Zardini, 2018).

"Sustainable Growth Rate" (SGR), which was first introduced by Robert C. Higgins (1977), shows the highest rate of increase that companies can achieve in the long run without exhausting their financial resources. This sustainable growth model developed by Higgins has become popular over time, especially for growing companies (Mukherjee & Sen, 2019). SGR, which gives companies sectoral competitiveness and thus ensures their success, can be defined as the ability to balance and expand (Fonseka, García Ramos & Tian (2012).

SGR explains whether the growth plan put forward by the firms can be financed within the current financial parameters. It is used as an important performance measurement tool that reveals the growth rates of companies and sectors (Firer, 1995; Vasiu & Ilie, 2018). Fast growth is a satisfactory situation for company stakeholders, partners, sector and market actors, but it carries risks in terms of not being able to manage some financial resource needs and may not lead to good results for the company as it may even lead the companies to bankruptcy. On the contrary, companies with low growth rates also experience problems such as the management of idle funds and the growth pressure of shareholders (Sahin & Ergun, 2018). Huang & Liu (2009) emphasize that the real growth of the SGR should be parallel to the capital and resources they have; Stating that faster or slower growth will affect the financial structure of companies, he emphasizes that they will have difficulties in terms of continuing their activities by facing the crisis (Huang & Liu, 2009). It is not always possible for the realized growth rate AGR to be equal to the SGR. What company managers need to do is to identify the differences between the two and make plans accordingly (Higgins, 2012, p. 127-131).

With increasing sales, it is necessary to invest more in all kinds of assets. In addition to the portion separated from the profits obtained, cash will enter the firm's coffers, albeit limited, through re-borrowing. However, these funds entering the vault are limited. Jensen (1993) stated: “The boards get bigger, they are less effective and it is easier for the CEO to exercise control”.

SGR specifies the rate/limit of the sales and total assets that the companies will realize without changing their capital structure, going into high levels of borrowing or selling new shares (Mukherjee & Sen, 2019). This limit creates an upper limit for the growth that can be achieved without straining the available resources. In Higgins' model, it is assumed that only profits on the cash register can increase the equity of firms. In this case the growth rate can be as shown below (Sahin & Ergun, 2018):

Sustainable Growth Rate	=	*(Retention Rate x Earnings) / Equity*

Another method used to analyze the financial structure and performance of companies is the "DuPont analysis". It is a tool used to evaluate the financial situation and profitability of companies. Accordingly, the financial statements of companies are separated into their components and analyzed within the framework of "total return on assets" and "return on equity", which are the criteria of profitability (Gitman & Zutter, 2015, p. 136). The following formulas are used for this (Omag, 2020):

ROA	=	*(Sales / Total Assets) x (Net Income / Sales)*

The factors that determine the ROE, which is the multiplier of SGR, are also the determinants of SGR. SGR is the ROE DuPont equation with the retention rate added (Vasiu & Ilie, 2018). With the SGR measurements, which show the business and funding strategies of the companies, the growth problems that the companies may encounter can be determined and their financial performance can be evaluated (Sahin & Ergun, 2018). Effective management of working capital affects profitability and sustainable growth has an indirect effect on this effect (Churchill & Mullins, 2001; Nastiti, Atahau & Supramono, 2019).

Since high profits provide companies with new investment opportunities, it is inevitable that they play a very important role in their growth. As seen in most of the studies in the literature, profitability and growth are positively related (Alarussi & Alhaderi, 2018; Bodhanwala & Bodhanwala, 2018; Dogan, 2013; Nugraha, Ramadhanti & Amaliawiati, 2021; Zubairi, 2011). In addition, profitability has generally been one of the most important factors promoting the growth of companies (Whittington, 1980).

A firm that cannot make a profit does not have the necessary financial means for growth and expansion. Only companies with high profitability ratios aim to grow by making new investments with a certain part of their profits. The return on assets ratio, which is among the profitability ratios, meets the long-term growth targets of the companies. This value, which is found by dividing the net profit by the total asset value, shows the efficiency of the companies' assets in generating profit. For example, if firms have a high return on their asset investments, they will be able to invest more in order to earn more profits. However, in the studies in the literature, it is seen that there is no definite relationship between profitability and growth. Therefore, it is not possible to make a definite judgment that ensuring rapid and sustainable growth depends on the profitability of the enterprise (Goddard, Molyneux & Wilson, 2004). Audretsch & Elston (2002) concluded in their study that the size of firms plays an important role in the relationship between profitability and growth. Abeyrathna & Priyadarshana, (2019); Niresh (2012), on the other hand, did not find a significant relationship between firm size and profitability. Becker-Blease, Kaen, Etebari & Baumann (2010) examined the relationship between firm size and profitability in manufacturing industries. They stated that the relationship between size and profitability is sector specific. In other studies, attention is drawn to many variables such as environmental and sector conditions that affect the relationship between firm profitability and growth. In summary, although there is no definite judgment in the literature, the general opinion is that there is a relationship between the growth of firms and their profitability.

5.3. The Relationship between Profitability and Working Capital

Firms aim to increase their profitability and survive while continuing their activities in today's competitive conditions. The WC, which includes the cash and similar assets needed for this, has a significant impact on the liquidity and profitability of the companies (Coskun & Kok, 2011). WCM has a direct impact on firms' profitability, liquidity and growth (Atrill, 2012, p. 403-411). This relationship is obvious. Effective WCM is required for investment and financing decisions. At the same time, it creates a positive image about the company both internally and externally.

The two main objectives to be achieved in WCM are liquidity and profitability. The purpose of liquidity is to ensure that the company can fulfill its financial obligations and maintain its continuity (Pass & Pike, 1984). Profitability can be expressed in many ways, but for finance it is best defined as the goal of maximizing shareholder wealth (Pass & Pike, 1984; Ross et al., 2003; Van Horne & Wachowicz, 2008). Attempts to maximize the profitability of WC components can put severe pressures on liquidity. Conversely, focusing on liquidity tends to reduce profitability (Pass & Pike, 1984). Finance managers should pay attention to and consider these two main and conflicting factors when planning and implementing WCM. Too liquid but unprofitable or less liquid to create more profit? They should prepare the most appropriate answer for their companies to these questions.

It has been observed that when companies want to take a greater risk to earn higher profits, they minimize the size of the WC according to the revenues they get. It has been observed that when he wants to improve his liquidity, he increases his WC level. However, its sales volume may decrease and thus its profitability may be affected. Therefore, a firm needs to find a balance between liquidity and profitability (Chatterjee, 2012). By minimizing the amount of cash tied to the WC, firms can reduce financing costs and/or increase available funds for expansion (Filbeck & Krueger, 2005).

The management of firms' CCC involves trade-offs between liquidity and profitability. When the number of days in stock is too low, the company will be unable to meet the demands that will be out of stock, and will run the risk of losing customers and losing sales. If the receivables days are reduced too much, the company will lose its credit customers and lose sales. If the firm increases the number of days to be paid too much, it will not be able to receive early payment discounts and will lose the flexibility available to it for borrowing in the future (Jose et al., 1996). While establishing the balance between liquidity and profitability, company managers should evaluate and decide whether there will be a loss in sales, the structure of the company, financing opportunities, market conditions, especially the stock, receivable, and debt payment attitudes of their competitors.

After Deloof's pioneering work and since the 2007 financial crisis, the literature on the WC-profitability relationship has developed and continues to evolve. After the crisis, companies started to investigate the causes of the collapse of the financial system and started to take measures for the financial system again. Firm managers have had to acknowledge the importance of effectively managing the firm's profitability, especially in the WC area, in order to prevent further losses and bankruptcies (Jakpar, Tinggi, Siang, Johari, Myint & Sadique, 2017). As a result, since WCM affects both profitability and risk, and after the crises and epidemics, especially after the economic difficulties experienced during the COVID-19 process, the importance of WCM has increased even more. Many companies that could not effectively manage their stocks, receivables or especially short-term debts failed in this process. Inadequate WC is often considered the main cause of firm failure (Rafuse, 1996).

Companies that want to increase their profitability may prefer to invest by taking risks instead of leaving their liquid assets idle. Such companies, which take high risks with low liquidity, may face lack of liquidity while trying to increase their profitability. On the contrary, companies with high levels of liquid assets may miss alternative investment opportunities and cause a decrease in their profitability, since they have excess working capital (Shin & Soenen, 1998). Managers consider the risk-reward relationship while making financial decisions. WC decisions also focus on the relationship between the liquidity return to be obtained from current asset investments and the risk of defaulting on short-term obligations (Ozdemir, 2016, p. 170). For this reason, WC decisions directly affect the liquidity level, company profitability, and success.

Although the profitability of the companies is at a sufficient level, taking the wrong decisions in WCM can lead the company to bankruptcy due to lack of liquidity. Therefore, possible risks and returns should be carefully evaluated while making WC decisions by the managers. For example, if the firm adopts an aggressive working capital policy and tries to keep its receivables at a minimum in order to reduce its liquidity, this situation affects its purchasing activities and may cause the risk of not meeting customer demands in a timely manner (Banos-Caballero et al., 2007). In addition, not offering credit sales opportunities may lead to a contraction in the customer demands of the enterprise. Similarly, keeping inventories at low levels may cause interruptions in production activities. In this case, the business will not be able to respond to the increase in demand and will miss the profitability opportunities.

Liquidity and WC are among the factors that directly affect profitability. CCC, which is frequently used in research on WC in the literature, expresses how well companies can manage WC without the need for external resources. Firms with long cash conversion cycles have high WC investment levels, indicating that the firm is operating with a low risk level and low rate of return. If the long-term sales policy increases the sales of the companies, it can be said that the length of the cash conversion period creates a return-increasing effect. However, profitability decreases if the cost of investment in current assets exceeds the income to be obtained from the investment at the end of sales. In this case, it cannot be said that the long cash conversion period negatively affects WCM and profitability under all circumstances.

Due to its nature, less profit is obtained from current assets compared to fixed assets. For this reason, while making WC investment decisions, it is tried to establish a balance between the optimal liquidity level and sufficient earnings. Managers should consider two outcomes of current asset investments when deciding at what level to keep liquidity. If the investment is made more than necessary, the risk of not paying the debts of the business will decrease, but the profitability will decrease. On the contrary, if there is not enough investment in current assets, the risk of not being able to continue the daily activities of the enterprise and not being able to pay its debts may occur, but its profitability will tend to increase (Vieria, 2010, p. 8).

5.4. Financial Performance Measurement Criteria of Firms

One of the issues that the field of finance focuses on is how to measure the success and performance of companies. It is accepted that performance measurement of firms is generally defined as the multidimensional relations between factors such as the use of resources, the level of realization of the objectives, the quality of the products produced and the services performed, how the tasks are performed in the realization of the activities, in line with the basic objectives and strategies of the firms, and objectively measuring the whole with financial and non-financial criteria based on a program (Yuregir & Nakiboglu, 2007). In other words, it is the measurement of the funds provided to determine whether the investments create profitability, return and value by evaluating them correctly (Canakcioglu & Demirbas, 2009). Performance measurement is an important control process that allows evaluating the results of the firm's activities and how well the objectives have been achieved. Performance measurement criteria are notable elements that enable this. In this context, it can be said that it is a field of study that is frequently on the agenda of finance managers, academics and creditors.

The traditional understanding of performance measurement is based on financial reports and tables created with accounting data. Starting from the industrialisation until today, while the performance measure is carried out within the framework of the concepts of cost and profitability in this aspect (Karapinar, 2002), it is also recently added different extents such as efficiency concept (Akal, 2000, p. 15). It has been observed that after the governance reform, the importance given to accounting-based performance measures decreased, while the importance given to the stock market performance measure increased. Shareholders prefer it as a better performance measure over accounting-based metrics because they can see more clearly how much their assets have increased and protected with stock market metrics (Conyon & He, 2014). While it was argued in the traditional understanding that the main purpose of the companies is to earn the highest level of profit, it has been argued that the ultimate goal is to increase the value of the company/shareholder wealth by emphasizing the importance of creating the highest level of value in the newly emerging methods (Keown et al., 2014). The main difference between them is that in the traditional understanding, the value created by the firm cannot be measured because it measures financial performance over accounting data (Canakcioglu & Demirbas, 2009). In addition, another difference is that it does not fully reflect the financial performance of companies. As the book values do not reflect the risk and valuation, they are not considered sufficient for the measurement of financial performance alone (Vernimmen, Dallocchio, Fur & Salvi, 2005, p. 243-245). It is seen that traditional measurement methods such as earnings per share, assets and equity profitability are criticized for these issues.

In parallel with the developments in the world, especially in the economic field and capital markets that started with globalization, and the competitive environment, business management understandings have also changed. Therefore, new and more reliable performance measurement criteria were needed in the field of finance. Over time, new methods and criteria have been used to measure the performance of companies (Abdeen &

Haight, 2002). Firms use either accounting-based or market-based performance measures. Accounting-based metrics show the firm's net profit, while market-based metrics show the firm's market value at the end of the year (Belkaoui & Picur, 1993). Performance measurement criteria are classified in different ways in the literature. The classification of this study was formed as follows within the scope of the data obtained from the literature and the scope of the study:

Traditional (According to Accounting Data) Financial Performance Criteria

➢ Earnings Per Share (EPS)
➢ Return on Equity (ROE)
➢ Return on Asset (ROA)
➢ Net Profit Ratio
➢ Return on Invested Capital (ROIC)
➢ Gross Operating Profitability
➢ Return On Capital Employed (ROCE)

Modern Financial Performance Criteria

According to Economic Criteria
➢ Net Present Value (NPV)
➢ Economic Value Added (EVA)
➢ Market Value Added (MVA)
Market Value Criteria
➢ Price-to-Earnings (P/E) Ratio
➢ Market to Book Ratio (MV/BV)
➢ Tobin's Q Ratio

The traditional criteria emerge as a result of dividing the profit rate shown in the financial statements obtained with the accounting records of the activities performed in a certain period by the desired value. Since the 1990s, many managers think that measurement methods and criteria based on traditional accounting do not show the desired performance results in the current market conditions, are not functional today, and they state that there are many deficiencies (Venanzi, 2012, p. 10-12). Some of the traditional performance measurement criteria based on accounting records are:

Earnings Per Share: The earnings-per-share ratio shows how much profit the firm is making for each stock, and it is desirable for this ratio to be high (Ceylan & Korkmaz, 2017, p. 70). Estimating earnings per share is important for both new investors and firm managers. New investors use these estimates to build their investment portfolios. Managers use these estimates for a number of important decisions, including budgeting, capital investment, and other resource allocation decisions. Therefore, accuracy in these estimates is essential for both optimum portfolio management in the capital markets and optimal resource allocation within a firm (Zhang, Cao & Schniederjans, 2004). This ratio is expressed as (Ross et al., 2003, p. 25-26):

EPS	=	*Net income / Total shares outstanding*

Return on Equity (ROE): Net profit after tax is calculated by dividing the equity invested in the firm by the shareholders, it indicates the rate of return earned by the shareholders on the capital invested (Brigham & Houston, 2015, p. 97). It is used to compare two or more companies in the same sector, and by this comparison, it can determine whether the positions of the companies are good or bad compared to their competitors. High ROE may also result from the firm assuming high financial risk due to high borrowing (Van Horne & Wachowicz, 2008, p. 150-151). The return on equity ratio is shown in the formula below:

ROE	=	*Net profit after taxes / Shareholders' equity*

Return on Assets (ROA): This is a ratio that measures the success and profit of using the total assets of the companies effectively to make profit. If a firm has a higher return on assets than its competitor, this indicates that the firm is better managing its resources (Ittelson, 2009, p. 201-204):

ROA	=	*Net Income / Total Assets*

Return on Invested Capital (ROIC): It is used to determine the rate of return obtained from the investments made. It is determined by the ratio of net profit to the amount of investment capital. This ratio is obtained as follows (Damodaran, 2007, p. 12):

ROIC	=	*Net Operating Profit After Tax / Invested Capital*

With the globalization in the world, measurement and valuation methods based on market performance have been widely used by all investors and analysts. Some of the modern performance measurement criteria based on value creation are:

Tobin's Q Ratio: This ratio, which was first introduced by James Tobin in 1969, is a ratio accepted as an indicator of growth, competitiveness and performance of companies (Alparslan & Aygun, 2013). Since Tobin's Q uses balance sheet items, the firm's market value is combined with its accounting value (Himmelberg, Hubbard & Palia, 1999). It is obtained by dividing the market value of the assets of the companies by the replacement cost of these assets (Wernerfelt & Montgomery, 1988). The formula for Tobin's Q ratio is as follows (Bertinetti, Cavezzali & Gardenal, 2013, p. 7):

Tobin's Q oranı	=	*(Equity Market Value + Liabilities Market Value) / Total Asset Value of Firm*

A high ratio indicates that the funds and investments are used effectively, on the contrary, the gains provided by the investments are below the costs (Lee & James, 1999, p. 20-31). Tobin's q compares the value of a company as reported by the financial markets to the value of a company's assets. If the calculated q value is between 0 and 1, it means that the stock is undervalued, and when q is greater than 1, it means that the stock is overvalued (Nazir & Afza, 2009). Unlike other traditional performance criteria, the Tobin's Q ratio reflects past and current performance as well as possible future performance (Canbas, Dogukanli, Duzakin & Iskenderoglu, 2005).

Economic Value Added (EVA): It is the ratio reached by subtracting the total cost of capital from the net operating profit of the companies after taxes are deducted (Erem & Akyuz, 2014). It specifies the difference between the cost of capital invested in operations and the return on that capital at the end of the cycle. Peter Drucker, who said, "Unless you earn the cost of the capital, you can't make a profit", expressed the importance of earning more from the investment costs (Yuregir & Nakiboglu, 2007). The following formula is used for calculation:

EVA	=	*Net operating profit after taxes – (Invested capital * Weighted average cost of capital)*

Market Value Added (MVA): It is a long-term performance criterion used to determine how much value is created by using a certain amount of capital owned by companies.This criterion, which shows the net worth of the companies in the market at the moment; It guides lenders, investors and company managers (Quintiliani, 2017).

MVA is based on the thesis that if the difference between the total value of the firms and the capital invested in the firms is large, firms will provide maximum returns for their shareholders. This value is shown in below (Ozturk, 2004):

MVA	=	*Market Value of Stocks - Book Value of Stockholders' Equity*

If the MVA is low, it indicates misuse of capital on hand. However, it should not be ignored that this situation may also be due to market conditions (Samiloglu, 2005).

The market value of companies does not reveal the value created alone. Market value reflects firm value. In determining the created value, together with the market value, the capital provided to the firm to reach this value must also be used (Ertugrul, 2009). The MVA shows how the managers, who are in charge of managing the resources allocated to them, perform with these resources. While the positive MVA indicates the value creates, negative market value added indicates the decrease in value (Arnold, 2005, p. 204).

MVA is generally expressed as the difference between the market value of the firm and the capital invested in the firm, and it can only be calculated in companies that are publicly traded and whose stocks have a certain market price.

Market to Book Ratio (MV/BV): MV indicates a firm's total value in the market, while BV indicates its accounting value (equity). The ratio of MV to BV represents the amount that investors have to pay for the net assets of the firms. This ratio is a value measurement tool used to compare the market value and book value of companies (Marangu

& Jagongo, 2014). It expresses the market price in accordance with the firms' equities. It is frequently used in the valuation of stocks. Accordingly, investment decisions can be made because it reveals the value of the stock (Ceylan & Korkmaz, 2018).

Price-to-Earnings (P/E) Ratio: The P/E ratio used in the valuation of companies' stock investments is calculated by dividing the market price of the stock in question by the earnings per share. It is widely used by analysts and investors to compare the profitability of companies and industries. Low rated stocks yield higher returns than high rated stocks (Huang & Wirjanto, 2012; Ramcharran, 2002). The price/earnings ratio is formalized below (Damodaran, 2007, p. 12):

P/E Ratio	=	*Market value per share / Earning per share*

6. MATERIALS AND METHODS, FINDINGS, DISCUSSION

6.1. Overview of the FFCs

Depending on the economic post-global developments in 2008, the decision of the FRS to reduce the liquidity it offered to the market by expanding its monetary policy in order to follow a tighter monetary policy in 2013 had a negative impact on some countries. As a result of these developments, the international investment bank Morgan Stanley published a report on 1 August 2013 and declared Brazil, India, Indonesia, South Africa and Turkey the "Fragile Five" and the abbreviation BIITS has been used for these countries (Akel, 2015).

In its report published in 2013, Morgan Stanley stated that the countries most affected economically by this decision were Brazil, India, Indonesia, South Africa and Turkey and named these countries as the "Fragile Five". The common feature of the countries in the "Fragile Five" category of Morgan Stanley is that they are also included in the G20 countries. In addition, according to Yukseler (2017), the economic and financial crises experienced in the countries in the G20 may adversely affect the international markets. One of the common features of these countries is that they are at the forefront of the world population rankings. This can cause them to experience employment problems especially in the textile sector, where they are pioneers, and also reduce their labor costs.

While adapting itself to the globalizing market, FFCs which are among the developing countries have become dependt on the dollar that has become the dominant currency in the world. This dependency has caused the economies of the said countries to be in a fragile structure. This situation had a negative impact on the economies of the FFCs after the FRS's announcement (Ersin, 2014). Because, with the decrease in the liquidity released to the market, the current account balances of these countries were adversely affected and their economic growth declined. Due to the difficulties in accessing external financing, the national currencies of these economies began to depreciate faster than other economies (Egilmez, 2015). The Fragile Five which are among the developing countries have become dependent on the international reserve currency, the dollar, while adapting to the globalizing markets. This addiction made them fragile. Macroeconomic problems that cause the Fragile Fives to gather in the same group are high current account deficit, high inflation, low economic growth, weak performance in the foreign trade balance, low employment, high unemployment rate. The status of local currencies of Fragile Five whose currency depreciated the most against the US dollar is given in Table 6.1. (Erkan & Batbayli, 2018):

Table 6.1. The state of the Fragile Five's local currencies.

1 USD				
Countries	**2013**	**2017**	**Changes %**	**Central Bank Policy Interests Rate %**
Brezilian Real	2.05	3.13	52	9.25
Indian Rupee	55.82	64.02	14	6
Indonesian Rupiah	9.77	13.34	36	6.5
South Afraca Rand	9.57	13.16	37	6.75
Turkish Lira	1.84	3.47	88	8
Source:http://www.global-rates.com/interest-rates/central-banks/central-banks.aspx 26.08.2017				

As can be seen in Table 6.1., the national currencies of the Fragile Five experienced a serious depreciation against the dollar between 2013 and 2017. Turkish Lira is the currency that lost the most value against the dollar with a change rate of 88%. It is seen that Brazil has the highest central bank interest rate and India has a relatively better position economically.

The central banks of these countries increased the interest rates in order to protect their national currencies quickly, but this situation caused high-interest borrowing and speculative capital flows. As a result, the depreciation of the national income of the countries accelerated (Gocer & Akin, 2016). After the FRS's announcement, they started to lose their global competitiveness due to falling commodity prices, high inflation and rising real exchange rates. Macroeconomic problems that cause the Fragile Fives to gather in the same group are high current account deficit, high inflation, low economic growth, weak performance in the foreign trade balance, low employment, high unemployment rate.

The Table 6.2. below shows the comparison of these five countries in terms of these indicators. (The rates are taken from The Economist Magazine and show the situation as of November 2013) (Egilmez, 2013):

Table 6.2. Comparison of the Fragile Five

Countries	Growth (%)	Inflation (%)	Budget Deficit (%)	Current Deficit (%)
Brazil	2,5	6,2	3,0	3,5
India	5,0	9,6	5,2	3,9
Indonesia	5,6	7,1	3,3	3,5
South Africa	1,9	5,8	4,8	7,0
Turkey	3.2	7,6	2,2	7,2

Turkey, which is in the middle of the fragile five in terms of growth rate in Table 6.2, is the second worst economy after India in terms of inflation rate and the worst economy in terms of current account deficit. In terms of budget deficit, it seems obligatory for countries other than Turkey, which is in the most comfortable position, to take fiscal policy measures.

As stated in Meltem Okur Dincsoy's research: *"When the Fragile Five are compared according to the data on growth, inflation, unemployment, budget balance and current account for the period 2005-2013, it is seen that Turkey is in the middle in terms of growth and South Africa is the most fragile country. India is the most fragile in inflation, followed by Turkey. India is also the worst economy in terms of budget balance. On the other hand, Turkey is the most fragile country in the current account balance. In terms of unemployment, Turkey is the most vulnerable country after South Africa. The fragility indicators examined prove that these five countries have a fragile structure. Although these macroeconomic indicators are phenomena that can create a financial crisis, their economic structure, which deteriorated further with the 2008 crisis in the 2005-2013 period, continued in 2013 as well, but no crisis has yet been experienced. However, in the face of an economic shock, these fragile structures will make it inevitable for them to feel the crisis more deeply"* (Dincsoy, 2016).

It shows that these countries are mainly specialized in raw material export and labor-intensive sectors. This situation shows that the economies mentioned do not have competitive power in the production and export of sectors (products) with high added value (Erkan & Batbayli, 2018).

Effective management of working capital is of greater importance compared to developed countries, as companies operating in developing economies are smaller, have limited use of funds, have difficulties in finding long-term funds due to inactive capital markets, and are exposed to high interest rates. Because working capital, which is a source of internal financing, is the primary source for them (Allen, Chakrabarti, De & Qian, 2012).

The textile industry is an extremely valuable industry for the FFCs. It is important for the economic growth of these countries with their high export demands and the employment opportunities they create. Since these countries are in the top ten in the textile field in the world, they are in the first place in the comparison of sectors.

6.2. The Effect of Working Capital Management on the Profitability of Textile Firms: Evidence from the FFCs

6.2.1. Purpose and Importance of the Research

Many applied studies in the national and international literature demonstrate that efficient management of working capital is associated with higher firm performance and firm value. Therefore, working capital decisions that focus on short-term financing and investment decisions can give companies a competitive advantage, increase profitability and performance, and make a significant contribution to the development of the real sector and financial markets. Consequently, efficient working capital management is of great importance not only to corporate management but also to all stakeholders.

The aim of this study is to empirically examine the effect of WC variables on financial performance with a sample consisting of companies operating in the textile sector of the "Fragile Five" countries in the period of 2010-2020.

6.2.2. Limitations of the Study

As in previous studies in the literature, our study also has some limitations. First, in this study, it is aimed to include companies operating in FFCs. However, companies in South Africa are excluded from the data set because sufficient and reliable data on these companies could not be reached. The financial data used were the balance sheets and income statements of textile companies registered on the stock exchanges of the four countries included in the study from the "Fragile Five" countries. These exchanges are Bovespa for Brazil, Jakarta for Indonesia, BIST for Turkey, BSE and National Stock Exchange for India.

Secondly, only textile sector companies whose stocks are traded on the stock exchange are included in the study. Thirdly, we do not include all performance indicators that exist for financial performance. Lastly, the use of a balanced panel for the 2010-2020 period in our study can be considered as a time constraint.

6.2.3. Contribution of the Study to the Previous Literature

This study contributes to the past literature on working capital management in four ways: Firstly, this study is the first to examine the working capital management of textile firms in FFCs using panel data regression analysis. Secondly, this study contributes to the existing knowledge on the relationship between working capital and financial performance by using the most recent data from textile companies operating in the FFCs. Thirdly, the results of this study provide guidance to managers operating in the textile industry to develop meaningful strategies to effectively manage working capital and enhance financial performance. Lastly, we employ panel data methodology based on Driscoll-Kraay standard errors estimator to deal with heteroscedasticity, autocorrelation, cross-section dependence, and unobservable heterogeneity.

6.2.4. Analysis

In this part of the study, the analysis carried out to determine the association between working capital management and firm performance is given.

6.2.4.1. Dataset and Descriptive Statistics

This study aims to analyze the influence of working capital elements on textile firms' financial performance in fragile five countries. In this context, of the textile companies that made up our sample, 12 operate in Brazil, 11 in Indonesia, 17 in Turkey, and the remaining 145 in India. Financial data of textile firms over the period of 2010–2020 are obtained from Thomson Reuters Eikon database. Econometric analyses were performed using the Stata 17 software. Our sample is a balanced panel dataset. All firm-level variables are winsorized at

1% and 99% levels to minimize the influence of possible spurious outliers. The variables employed in this study and their influence on financial performance are shown in Table 6.3.

Table 6.3. Definitions of variables

Variable	Measure	Notation	Expected sign
Dependent variables			
Return on Assets	Net profit/total assets	ROA	
Tobin’s Q	(The market value of equity + short- and long-term liabilities)/total assets.	TQ	
Independent variables			
Accounts receivable period	[Average receivables * 365/sales]	ARP	+/-
Inventory holding period	[Average inventories * 365/cost of goods sold]	IHP	+/-
Accounts payable period	[Average payables * 365/cost of goods sold]	APP	+/-
Cash conversion cycle	[ARP + IHP-APP]	CCC	+/-
Control variables			
Current ratio	Total current assets/total current liabilities	CR	+
Leverage	The ratio of total debt to total assets.	LEV	-
Firm size	Natural logarithm of total assets	SIZ	+/-
Growth	(Current year sales/ previous year sales) – 1	GRO	+/-

Explanatory information regarding all variables employed in the analysis is given in Table 6.3. The descriptive statistics values calculated for these variables are shown in Table 6.4. According to the summary statistics calculated for all textile companies in Table 6.4., the average value of the ROA variable is approximately 2.2%, and this means that the textile companies included in this sample are, on average, profitable firms during the analysis period. The average value of Tobin's Q is about 1.19. When the summary statistics presented in Table 6.4. are analyzed in terms of working capital variables, the ARP variable has an average value of about 54. This means that textile firms give their customers about 54 days to pay their dues. In other words, firms tend to collect their receivables on sales after an average of 54 days. With regard to IHP variable, it is found that mean value of IHP is close to 126 days. This means that textile firms wait about 126 days to convert their inventories into sales. The APP variable has an average value of about 60. This statistic demonstrates that textile firms tend to pay their debts within 60 days. Finally, the average CCC is approximately 118 days.

Table 6.4. Descriptive Statistics for full sample

Variable	**Mean**	**SD**	**Median**	**Min**	**Max**	**N**
ROA	.0221698	.0598066	.0235	-.1215	.1329	2035
TQ	1.191236	.6854435	.9398	.03114	3.2258	2035
ARP	53.89736	37.66859	46.0237	1.5829	139.671	2035
IHP	125.7529	71.77597	112.04	28.0707	302.681	2035
APP	60.18886	39.83007	53.2794	6.5449	152.883	2035
CCC	117.8743	78.26983	108.328	-11.9134	295.048	2035
CR	1.734155	1.293129	1.2841	.4927	6.1023	2035
LEV	.6090279	.2220544	.628461	.191819	1.06691	2035
SIZ	18.15787	1.318546	18.0575	15.8837	20.7416	2035
GRO	.0097165	.200093	.0246	-.4493	.3678	2035

Summary statistics obtained using sub-samples of textile companies operating in Brazil, Indonesia, Turkey and India are reported in Table 6.5. Columns 1, 4, 7, and 10 of Table 6.5. report the mean values of variables for firms in Brazil, Indonesia, Turkey, and India, respectively.

According to Table 6.5., the textile firms with the highest ROA with an average value of 0.025 are Indian companies. The positive average ROA value of textile companies in other countries indicates that companies operating in the textile industry are profitable companies. According to Table 6.5., the fact that the average Tobin's Q value of the textile companies operating in all 4 countries is above 1 indicates that these companies, on average, create value for their shareholders.

Among the textile firms operating in 4 countries, Indonesian textile firms expect their customers to pay their debts in approximately 43 days, while Brazilian textile firms provide their customers with an average of 96 days to pay their debts. This result demonstrates that the firms that make the fastest (slowest) collection on their sales are Indonesian (Brazilian) textile companies.

Regarding the IHP variable, compared to firms in other countries, Brazilian firms tend to convert their inventories into sales in a shorter time (an average of 112 days). With regard to the APP variable, compared to firms in other countries, Brazilian firms tend to convert their inventories into sales in a shorter time (an average of 112 days). Concerning the ARP variable, Turkish firms take longer time to pay back their debts when compared to firms in other countries. Interestingly, regarding the CCC variable, the study reveals that Brazilian firms take a longer time (an average of 150 days) to complete the conversion cycle as compared to firms in other countries.

Table 6.5. Descriptive Statistics for Sub-samples (Brazil, Indonesia, Turkey, and India)

	Brazil			**Indonesia**			**Turkey**			**India**		
	Mean	**SD**	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**	**N**
ROA	0.008	0.086	132	0.009	0.064	121	0.019	0.067	187	0.025	0.056	1595
TQ	1.402	0.782	132	1.263	0.727	121	1.256	0.651	187	1.161	0.674	1595
ARP	95.760	23.403	132	43.118	21.458	121	64.582	35.977	187	49.998	37.381	1595
IHP	111.656	44.474	132	120.490	80.114	121	117.239	71.760	187	128.317	72.757	1595
APP	54.442	42.815	132	53.038	35.205	121	76.672	38.187	187	59.274	39.635	1595
CCC	149.802	77.984	132	109.806	79.654	121	105.903	74.756	187	117.248	77.981	1595
CR	2.062	1.733	132	1.635	1.251	121	1.588	1.239	187	1.732	1.256	1595
LEV	0.614	0.307	132	0.611	0.278	121	0.539	0.212	187	0.617	0.208	1595
SIZ	19.556	0.955	132	18.795	0.946	121	18.565	1.237	187	17.946	1.281	1595
GRO	-0.045	0.228	132	-0.001	0.184	121	-0.023	0.214	187	0.019	0.196	1595

6.2.4.2. Model

Following Deloof (2003), Zariyawati, Annuar, Taufiq & Rahim (2009), Banos-Caballero S. et al. (2007), Sharma & Kumar (2011), and Singhania & Mehta (2017), the two-way fixed effects equations are estimated to investigate the association between working capital management and financial performance.

Model 1: $(\mathrm{FP})_{\mathrm{it}} = \alpha_0 + \gamma(\mathrm{ARP})_{\mathrm{it}} + \sum_{j=1}^{4}(\mathrm{FLCV})_{\mathrm{it}}\,\beta_{\mathrm{j}} + \sum_{t=1}^{11-1}\lambda_{\mathrm{t}}(\mathrm{Year})_{\mathrm{t}} + \varepsilon_{\mathrm{it}}$

Model 2: $(\mathrm{FP})_{\mathrm{it}} = \alpha_0 + \gamma(\mathrm{IHP})_{\mathrm{it}} + \sum_{j=1}^{4}(\mathrm{FLCV})_{\mathrm{it}}\,\beta_{\mathrm{j}} + \sum_{t=1}^{11-1}\lambda_{\mathrm{t}}(\mathrm{Year})_{\mathrm{t}} + \varepsilon_{\mathrm{it}}$

Model 3: $(\mathrm{FP})_{\mathrm{it}} = \alpha_0 + \gamma(\mathrm{APP})_{\mathrm{it}} + \sum_{j=1}^{4}(\mathrm{FLCV})_{\mathrm{it}}\,\beta_{\mathrm{j}} + \sum_{t=1}^{11-1}\lambda_{\mathrm{t}}(\mathrm{Year})_{\mathrm{t}} + \varepsilon_{\mathrm{it}}$

Model 4: $(\mathrm{FP})_{\mathrm{it}} = \alpha_0 + \gamma(\mathrm{CCC})_{\mathrm{it}} + \sum_{j=1}^{4}(\mathrm{FLCV})_{\mathrm{it}}\,\beta_{\mathrm{j}} + \sum_{t=1}^{11-1}\lambda_{\mathrm{t}}(\mathrm{Year})_{\mathrm{t}} + \varepsilon_{\mathrm{it}}$

In these models, subscripts i and t represent individual firm and year, respectively. α_0 is the intercept. $\mathrm{FP}_{\mathrm{it}}$ is the dependent variable, and it is measured by accounting-based financial performance (ROA) and market-based financial performance (Tobin's Q). $\mathrm{ARP}_{\mathrm{it}}$, $\mathrm{IHP}_{\mathrm{it}}$, APP_{it}, and $\mathrm{CCC}_{\mathrm{it}}$ are the independent variables and they represent working capital variables such as accounts receivable period, inventory conversion period, accounts payable period, and cash conversion cycle. The term β is the vector of coefficients to be estimated. In the above equations, $\mathrm{FLCV}_{\mathrm{it}}$ is a vector of independent variables consisting of the variables such as current ratio, growth, firm size, and leverage. The coefficients α_0, γ, β_{j}, and λ_{t} are the parameters to be estimated. $\varepsilon_{\mathrm{it}} = \omega_{\mathrm{i}} + \mathrm{u}_{\mathrm{it}}$, where ω_{i} demonstrates time-invariant firm-level fixed effects and u_{it} denotes the random error terms.

6.2.4.3. Hypotheses Development

In the following section, the possible effects of four variables representing working capital management on firm performance are discussed in detail and thus the hypotheses of the study are formed.

6.2.4.3.1. The Relation Between ARP and Financial Performance

Accounts receivable can be considered as trade credit given by the firms to customers. In connection with the cost and benefit of accounts receivable, firms may offer shorter or longer trade credits to their current or potential customers. First, offering customers a longer credit period can help increase the firm's profitability performance by attracting new customers who normally can't afford to buy and have financial problems. However, as the trade credit extension decisions taken by the companies will cause the opportunity costs to increase, the increased costs may also harm the companies' profitability (Rey-Ares, Fernández-López & Rodeiro-Pazos, 2021; Braimah et al., 2021).

6.2.4.3.2. The Relation Between IHP and Financial Performance

Because inventories are an important cost element, especially for manufacturing companies, inventory management policies are one of the critical success factors that directly impact company profitability and performance. Maintaining sufficient inventories can not only reduce the urgent purchasing needs of companies but also allow them to be less affected by price fluctuations in the market, which helps to increase profitability performance. On the other hand, however, holding a high level of inventory can increase various costs (security costs, heating, theft, rent, obsolesce, etc.) associated with inventories, which can harm firm profitability and value (Afrifa et al., 2014).

6.2.4.3.3. The Relation Between APP and Financial Performance

A delay in payments to suppliers of the firm not only enables companies to evaluate the quality of purchased products and services, but also provides companies with a cheap source of financing. Therefore, this can lead to an increase in the profitability of the company. However, delayed payment of debts may cause firms not to benefit from cash discounts and damage their credit worthiness, which may harm the profitability of the firm (Enqvist, et al., 2014; Othuon, Gatimbu, Musafiri & Ngetich, 2021).

6.2.4.3.4. The Relation Between CCC and Financial Performance

A longer CCC can allow customers to have more time to pay, which allows the firm to both establish long-term customer relationships and thus generate more sales and revenue. Hence, a longer CCC may contribute to improving the firm's financial performance (Deloof, 2003; Braimah et al., 2021; Martínez-Sola, García-Teruel &Martínez-Solano, 2013). Contrary to this positive expectation, the firm's more efficient management of working capital may be associated with a shorter CCC. Because firms with a shorter CCC have more cash flow and a more aggressive working capital policy, which indicates that they will seek less external financing and be more profitable. Thus, a short CCC may be beneficial for firm financial performance (Banos-Caballero et al., 2013; Hussain et al., 2021). Based on these arguments, the influence of the CCC variable on firm profitability could be expected to be positive or negative.

6.2.4.4. Method

The econometric analysis consists of the following steps: Firstly, Spearman correlation analysis is carried out to determine whether there is a multicollinearity problem between the independent variables and control dependent. Secondly, as it is known, there are three traditional estimators used to estimate coefficients in panel data regression analysis in the literature. These are the Pooled OLS (POLS), random effects (REs), and fixed effects (FEs) estimators, respectively. The POLS is ignored in this study. Because it is based on the assumption that there is no correlation between independent variables and firm-specific fixed effects. Also, the POLS estimation assumes no unit and time effects, which is not a realistic assumption. As a result, the Hausman test is employed to choose between the remaining two estimators (i.e, REs and FEs). The Hausman test is based on the null hypothesis that the REs model is more appropriate than the FEs model (Baum, 2006).

Thirdly, after deciding that the FEs (Res) estimator is the most appropriate estimator for the estimation of the coefficients in the financial performance model, we perform diagnostic tests to investigate the presence of serial correlation, heteroscedasticity, and cross-sectional dependence in the error terms in the panel data model. For diagnostic tests, we employ the Wooldridge test for serial correlation (Drukker, 2003), the Modified Wald test (Levene) for heteroscedasticity (Baum, 2001), and the Pesaran CD test for cross-sectional dependence (De Hoyos and Sarafidis 2006), respectively. The Wooldridge test is based on the null hypothesis that there is no serial correlation in the data. While the modified Wald (Levene) test is based on the null hypothesis that there is no heteroscedasticity, the Pesaran CD test is also based on the null hypothesis that there is no cross-sectional dependence.

Finally, if serial correlation, heteroscedasticity, and cross-sectional dependence are detected in the panel data, then we utilize the Driscoll and Kraay (1998) estimator using FEs or REs regressions to obtain robust test statistics (Hoechle, 2007).

6.2.4.5. Investigation of Multi-Collinearity Problem

The next step in the analysis is to estimate the correlations between the independent and control variables. Table 6.6. presents the estimated coefficients of the correlation coefficients between the independent and control variables employed in our regression models for the full sample.

We find a negative and significant linkage (-0.628) between CR and LEV variables. On the other hand, CCC shows a significant positive association with IHP (0.719). More importantly, the estimated high correlation coefficient between CCC and IHP indicates that inclusion of the two variables in the same regression model will result in multi-collinearity. As a result, the fact that other estimated correlation coefficients are lower than 0.80 reveals that multi-collinearity is not a significant issue in terms of other variables (Kennedy, 2003; Gujarati, 2004).

Table 6.6. Spearman correlation between independent and control variables for full sample

	ARP	IHP	**APP**	**CCC**	**CR**	**LEV**	**SIZ**	**GRO**
ARP	1.000							
IHP	0.041*	1.000						
APP	0.190***	0.239***	1.000					
CCC	0.373***	0.719***	-0.195***	1.000				
CR	0.123***	0.115***	-0.179***	0.271***	1.000			
LEV	-0.078***	-0.024	0.181***	-0.152***	-0.628***	1.000		
SIZ	-0.008	0.101***	-0.023	0.103***	-0.067***	0.048**	1.000	
GRO	-0.117***	-0.045	-0.073***	-0.056**	0.139***	0.036	0.061**	1.000

Note: ***, ** and * indicate the level of significance at 1%, 5%, and 10%.

The estimated correlation coefficients for the Brazil, Indonesia, Turkey, and India sub-samples are reported in Table 6.7., Table 6.8., Table 6.9. and Table 6.10., respectively. The highest estimated correlation coefficients in Tables 7, 8, 9 and 10 are -0.612, 0.860, 0.680, and 0.738, respectively. All these results show that working capital components should be modelled separately.

Table 6.7. Spearman correlation between independent and control variables for Brazil

	ARP	IHP	APP	CCC	CR	LEV	SIZ	GRO
ARP	1.000							
IHP	0.151*	1.000						
APP	-0.282***	0.104	1.000					
CCC	0.692***	0.522***	-0.573***	1.000				
CR	0.390***	0.129	-0.591***	0.611***	1.000			
LEV	-0.332***	-0.033	0.668***	-0.546***	-0.612***	1.000		
SIZ	0.457	-0.028	-0.106	0.350	0.503	-0.481	1.000	
GRO	-0.088	-0.079	-0.068	-0.042	0.060	-0.058	0.040	1.000

Note: ***, ** and * indicate the level of significance at 1%, 5%, and 10%.

Table 6.8. Spearman correlation between independent and control variables for Indonesia

	ARP	IHP	APP	CCC	CR	LEV	SIZ	GRO
ARP	1.000							
IHP	0.027	1.000						
APP	-0.130	0.448***	1.000					
CCC	0.223**	0.860***	0.012	1.000				
CR	0.004	0.302***	0.112	0.240***	1.000			
LEV	0.071	0.055	-0.122	0.143	-0.622***	1.000		
SIZ	0.246***	-0.585***	-0.139	-0.580***	-0.032	-0.103	1.000	

GRO	0.284***	-0.204**	-0.042	-0.138	-0.027	0.062	0.119	1.000

Note: ***, ** and * indicate the level of significance at 1%, 5%, and 10%.

Table 6.9. Spearman correlation between independent and control variables for Turkey

	ARP	IHP	**APP**	**CCC**	**CR**	**LEV**	**SIZ**	**GRO**
ARP	1.000							
IHP	-0.250***	1.000						
APP	-0.165**	0.240***	1.000					
CCC	0.210***	0.680***	-0.268***	1.000				
CR	0.081	-0.079	-0.222***	0.105	1.000			
LEV	-0.135*	0.200**	0.410***	-0.019	-0.646***	1.000		
SIZ	-0.227***	0.044	0.089	-0.213***	-0.019	0.062	1.000	
GRO	-0.135*	-0.074	0.023	-0.135*	0.095	-0.151**	0.107	1.000

Note: ***, ** and * indicate the level of significance at 1%, 5%, and 10%.

Table 6.10. Spearman correlation between independent and control variables for India

	ARP	IHP	**APP**	**CCC**	**CR**	**LEV**	**SIZ**	**GRO**
ARP	1.000							
IHP	0.094***	1.000						
APP	0.264***	0.241***	1.000					
CCC	0.382***	0.738***	-0.156***	1.000				
CR	0.121***	0.116***	-0.159***	0.255***	1.000			

LEV	-0.061**	-0.056**	0.161***	-0.156***	-0.578	1.000		
SIZ	-0.134***	0.200***	-0.022	0.136***	-0.120***	0.132***	1.000	
GRO	-0.115***	-0.033	-0.087***	-0.033	0.177***	0.052**	0.098***	1.000

Note: ***, ** and * indicate the level of significance at 1%, 5%, and 10%.

6.2.4.6. Estimation Results of Panel Data Models

In this part of the study, firstly, the estimation results obtained from the models in which ROA, an accounting-based performance measure, is the dependent variable, are summarized. Then, the findings obtained from the models in which Tobin's Q, which is a market-based performance measure, is employed as the dependent variable, are given.

6.2.4.6.1. Estimation Results of ROA Models

Table 6.11. reports the values of the estimated coefficients of the regression models shown in Equations (1)-(4). The model goodness of fit (R^2) demonstrates that about 18% of the variation in ROA of textile companies is explained by the independent and control variables used in the regression models. Moreover, according to the results of the F statistic, which tests whether the models are significant or not, it has been decided that all models are significant.

The estimation results for models (1)-(4), where ROA is the dependent variable, are given in Table 6.11. As can be seen at the bottom of Table 6.11, Hausman statistics for all models are highly significant. Therefore, we employ a fixed effects estimator to estimate the impact of the working capital variables on ROA for the full sample. Before reporting the analysis results, three important assumptions concerning the error process, i.e. heteroscedasticity, serial correlation, and cross-sectional dependence are tested under a fixed effect specification, respectively, employing the Modified Wald test, Wooldridge test, and Pesaran CD test. The results reported at the bottom of Table 6.11. demonstrate the presence of heteroscedasticity, serial correlation, and cross-sectional dependence. Because the statistics that test these assumptions are highly significant. Therefore, all the models are estimated based on the Driscoll-Kraay standard errors estimator utilizing FEs regression to overcome these issues.

A positive and significant association is found between ROA and ARP at 10% significance level. This result demonstrates that the longer the ARP, the higher the profitability of the firm. More clearly, this result can be explained by the fact that textile companies, which make a significant investment in their customers in terms of receivables, expect more sales. In Models (2)-(4), neither the CCC nor its other components (i.e., IHP and APP) are found to be significantly correlated with ROA at any level of significance.

As for the control variables included in the ROA model, the CR variable does not have any significant effect on the ROA of textile firms. The estimated coefficient of the LEV variable is negative and significant in all models, meaning that firms with more debt are less profitable. The fact that the estimated coefficient of the SIZE variable is negative and significant in all models indicates that larger companies are less profitable compared to smaller companies. The GRO variable is found to have a significant and positive impact on the ROA. This finding reveals that as firms continue to grow, they can earn more profits.

Table 6.11. Estimation results of the Driscoll-Kraay standard errors estimator for the full sample

	Dependent Variable: ROA			
	(1)	(2)	(3)	(4)
ARP	0.0000658*			
	(0.0000335)			
IHP		0.0000204		
		(0.0000386)		
APP			0.0000644	
			(0.0000543)	
CCC				0.00000938
				(0.0000380)
CR	0.00247	0.00242	0.00273	0.00243

	(0.00159)	(0.00172)	(0.00164)	(0.00176)
LEV	-0.119***	-0.119***	-0.121***	-0.119***
	(0.0102)	(0.0103)	(0.0103)	(0.00980)
SIZ	-0.0120***	-0.0123**	-0.0119***	-0.0120**
	(0.00361)	(0.00423)	(0.00366)	(0.00394)
GRO	0.0565***	0.0567***	0.0568***	0.0563***
	(0.0110)	(0.0118)	(0.0108)	(0.0117)
cons	0.296***	0.304***	0.295***	0.300***
	(0.0712)	(0.0807)	(0.0716)	(0.0767)
Hausman	66.70***	59.10***	66.43***	57.85***
Wooldridge	13.928***	15.041***	31809.32***	15.653***
Modified Wald	31197.17***	31138.63***	31809.32***	30953.82***
Pesaran's CD	17.502***	17.790***	18.414***	17.363***
Within R^2	0.1778	0.1770	0.1780	0.1768
F-statistic	597.60***	66.37***	61.86***	55.48***
Obs.	2035	2035	2035	2035
No of firms	185	185	185	185
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

After giving the estimation results for the firms in the full sample, the main sample is divided into sub-samples considering the four countries included in the study. Thus, the regression models given in Equation (1)-(4) have been re-estimated for textile firms in different countries. Here, it should be noted that the estimation results for Brazilian, Indonesian, Turkish and Indian firms are presented in Tables 6.12.- 6.14, respectively.

Findings of the estimated regression models for textile companies operating in Brazil are reported in Table 6.12. We found a negative and significant association between ARP and ROA of Brazilian textile companies. This finding reveals that firms that give their customers more time to pay off their debts tend to operate with less profit. In other words, this demonstrates that a reduction in ARP helps to surge profitability in the Brazilian Textile Industry. With regard to CCC variable, Table 6.12. also suggests that an increase in CCC leads to a decrease in ROA. This result shows that the managers of companies operating in the textile sector in Brazil manage their working capital more efficiently. Furthermore, Table 6.12. indicates that the estimated coefficients of IHP and APP are negative and positive, respectively, but these coefficients are not significant in ROA models. The coefficients of the CR and SIZE variables are not statistically significant in the sample of Brazilian firms. The influence of the GRO variable on ROA is positive and significant, which shows that companies that tend to grow in terms of sales are more profitable. Also, as observed in the full sample, firms with higher debt tend to operate with less profit.

Table 6.12. Estimation results of the Driscoll-Kraay standard errors estimator for Brazil

	Dependent Variable: ROA			
	(1)	(2)	(3)	(4)
ARP	-0.000601**			
	(0.000243)			
IHP		-0.000144		
		(0.000245)		
APP			0.000324	
			(0.000285)	
CCC				-0.000249*
				(0.000123)
CR	0.0127	0.00939	0.0100	0.0121
	(0.0108)	(0.00953)	(0.00988)	(0.0101)

LEV	-0.145**	-0.154**	-0.172***	-0.164**
	(0.0556)	(0.0511)	(0.0539)	(0.0525)
SIZ	0.00564	-0.000587	0.00118	0.00565
	(0.0144)	(0.0170)	(0.0174)	(0.0145)
GRO	0.0747***	0.0755***	0.0755***	0.0755***
	(0.0132)	(0.0155)	(0.0132)	(0.0151)
cons	0.0365	0.126	0.0593	0.0247
	(0.286)	(0.313)	(0.331)	(0.273)
Hausman	1.33	1.25	3.20	2.32
Wooldridge	0.211	0.256	0.171	0.158
Levene_Wo	1.6851880*	1.58685835	1.43508625	1.58628111
Pesaran's CD	3.196***	2.663***	2.356**	3.634***
Overall R^2	0.3803	0.6031	0.5952	0.6146
Wald-statistic	57.94***	2580.11***	217.25***	242.63***
Obs.	132	132	132	132
No of firms	12	12	12	12
Estimator	DK-RE	DK-RE	DK-RE	DK-RE

Notes: Robust standard errors are reported in parentheses. DK-RE is the Driscoll-Kraay standard errors estimator using REs regression. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Neither the CCC nor the variables that make up the CCC are found to be statistically significant in explaining the change in the ROA of the companies operating in the Indonesian textile sector. When the findings reported in Table 6.13. are analysed in terms of control variables, the effect of LEV and GRO variables on ROA is significant. The negative and significant coefficient of the LEV variable reveals that Indonesian firms that borrow more have lower profitability. However, the positive and significant coefficient of the GRO variable shows that companies that grow in terms of sales tend to earn more. In addition, the influence of CR and SIZ variables on ROA is negative. However, this impact is not statistically significant.

Table 6.13. Estimation results of the Fixed Effects estimator for Indonesia

	Dependent Variable: ROA			
	(1)	(2)	(3)	(4)
ARP	0.0000957			
	(0.000117)			
IHP		0.0000151		
		(0.000111)		
APP			-0.000166	
			(0.000182)	
CCC				0.0000449
				(0.000121)
CR	-0.00170	-0.00125	-0.00213	-0.00176
	(0.00298)	(0.00313)	(0.00366)	(0.00374)
LEV	-0.145***	-0.136***	-0.142***	-0.140***
	(0.0240)	(0.0292)	(0.0245)	(0.0255)
SIZ	-0.00702	-0.00572	-0.00675	-0.00462
	(0.00890)	(0.0155)	(0.00973)	(0.0150)
GRO	0.106***	0.0984***	0.0990***	0.102***
	(0.0268)	(0.0233)	(0.0293)	(0.0231)
cons	0.223	0.192	0.228	0.171
	(0.178)	(0.317)	(0.181)	(0.304)
Hausman	20.29***	17.94***	18.60***	23.04***
Wooldridge	7.381**	10.148***	10.138***	14.803***

Modified Wald	1940.61***	1329.53***	2379.58***	882.74***
Pesaran's CD	-0.989	-0.466	-1.289	-0.697
Within R^2	0.2240	0.2489	0.2476	0.2809
F-statistic	539.71***	43.98***	38.19***	161.72***
Obs.	121	121	121	121
No of firms	11	11	11	11
Estimator	FE	FE	FE	FE

Notes: Robust standard errors are reported in parentheses. FE is the Fixed Effects estimator. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Findings regarding the estimated regression models for firms in the Turkish textile industry are given in Table 6.14. According to Table 6.14., the only variable found to be statistically significant among working capital variables is ARP. The estimated coefficient of this variable is positive. This finding implies that companies with higher trade receivables tend to generate more income by providing longer payment opportunities to their customers.

When the estimation results are analyzed in terms of firm-level control variables, we find that the LEV has a significantly negative influence on ROA, which suggests that highly leveraged firms perform better. We also find that the GRO has a significantly positive impact on ROA, which demonstrates that firms having higher growth rate are highly likely to have performed better. Another firm-specific determinant that was found to be significant in the Turkish textile sector sub-sample is firm size. Model 4 reveals that larger firms having lower ROA compared to smaller firms. Finally, the estimation result of model (4) in Table 6.14. is that, contrary to the economies of scale perspective, as firms get larger their profitability performance decreases.

Table 6.14. Estimation results of the Driscoll-Kraay standard errors estimator for Turkey

	Dependent Variable: ROA			
	(1)	(2)	(3)	(4)
ARP	0.000200**			

	(0.0000672)			
IHP		0.0000388		
		(0.0000502)		
APP			0.000000158	
			(0.000114)	
CCC				0.0000844
				(0.0000576)
CR	-0.00211	-0.00124	-0.00112	-0.00198
	(0.00385)	(0.00366)	(0.00373)	(0.00402)
LEV	-0.201***	-0.204***	-0.202***	-0.199***
	(0.0145)	(0.0173)	(0.0209)	(0.0174)
SIZ	-0.0115	-0.0151	-0.0139	-0.0137*
	(0.00740)	(0.00841)	(0.00780)	(0.00736)
GRO	0.0360***	0.0398***	0.0388***	0.0431***
	(0.00722)	(0.00888)	(0.00881)	(0.00932)
cons	0.346**	0.421**	0.403**	0.390**
	(0.141)	(0.162)	(0.153)	(0.139)
Hausman	20.29***	17.94***	18.60***	23.04***
Wooldridge	0.533	1.401	0.847	1.894
Modified Wald	389.81***	430.99***	415.66***	316.66***
Pesaran's CD	-2.150**	5.902***	5.489***	5.936***
Within R^2	0.4088	0.3996	0.3988	0.4054
F-statistic	91.04***	243.55***	241.57***	63.33***
Obs.	187	187	187	187

No of firms	17	17	17	17
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Estimation results for Indian textile companies are summarized in Table 6.15. When the estimation results of the working capital variables of the firms are examined, all the coefficients of these variables are not found to be statistically significant at any significance level. This finding reveals that variables representing working capital in the Indian textile industry are not significant determinants of ROA. More specifically, working capital components are not found to be significant in explaining the change in ROA, which is an accounting-based financial performance indicator.

As for the control variables of the models, the coefficient of the SIZ variable is negative and significant, which indicates that larger firms are less profitable. Similarly, the estimated coefficient of the LEV variable in all models is highly significant and negative. This finding suggests that firms with a high level of borrowing operate at a lower level of profit compared to firms with a low level of borrowing. Another significant control variable related to the sub-sample of Indian textile firms is the GRO variable. The positive and significant coefficient of the GRO variable indicates that companies that continue to grow in terms of sales tend to have a higher ROA. Whereas it has been determined that the CR variable, which represents liquidity level in all four estimated equations, does not have a significant effect on ROA.

Table 6.15. Estimation results of the Driscoll-Kraay standard errors estimator for India

	Dependent Variable: ROA			
	(1)	(2)	(3)	(4)
ARP	0.0000456			
	(0.0000304)			
IHP		0.00000793		
		(0.0000460)		

APP			0.0000796	
			(0.0000646)	
CCC				-0.00000783
				(0.0000408)
CR	0.00230	0.00233	0.00270	0.00244
	(0.00174)	(0.00189)	(0.00180)	(0.00200)
LEV	-0.114***	-0.113***	-0.115***	-0.113***
	(0.0116)	(0.0113)	(0.0110)	(0.0113)
SIZ	-0.0105*	-0.0103*	-0.0101*	-0.00976*
	(0.00473)	(0.00517)	(0.00479)	(0.00501)
GRO	0.0533***	0.0532***	0.0544***	0.0528***
	(0.0131)	(0.0142)	(0.0126)	(0.0136)
cons	0.265**	0.263**	0.255**	0.255**
	(0.0911)	(0.0967)	(0.0905)	(0.0955)
Hausman	49.73***	44.63***	53.13***	42.72***
Wooldridge	18.275***	19.238***	19.982***	18.386***
Modified Wald	22789.76***	22213.00***	32944.60***	22119.22***
Pesaran's CD	20.370***	20.431***	21.110***	20.229***
Within R^2	0.1777	0.1771	0.1795	0.1771
F-statistic	219.35***	1150.58***	49.97***	867.52***
Obs.	1595	1595	1595	1595
No of firms	145	145	145	145
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. FE is the Fixed Effects estimator.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.2.4.6.2. Estimation Results of Tobin's Q Models

In our study, the estimation results obtained from the models in which Tobin's Q variable, which is a market-based financial performance measure, is the dependent variable, are presented in Table 6.16. As can be seen at the bottom of Table 6.16., the R^2 values of the regression models vary between approximately 17% and 18%. Furthermore, the significant F-values imply that all the independent and control variables included in the financial performance model are important for explaining the variations in textile firms' financial performance.

The highly significance of the statistics for the Hausman test reported in the bottom of Table 6.16. for the full sample reveals that the FEs estimator is the most appropriate estimator in the estimation of model parameters. In the study, three important assumptions regarding error processes are tested under the fixed effects model, following the determination of the most appropriate panel estimate. Results for the assumptions such as heteroscedasticity, serial correlation, and cross-sectional dependence are reported in Table 6.16. The highly significance of the test statistics for these assumptions reveal the presence of heteroscedasticity, serial correlation, and cross-sectional dependence in the FEs models' error terms. Thus, to deal with these problems, all the regression models for the full sample are estimated employing the Driscoll-Kraay standard errors estimator based on FEs regression.

When the results reported in Table 6.16. are evaluated in terms of variables representing working capital, it is determined that the coefficients of the ARP and APP variables are not statistically significant. However, it is observed that the estimated coefficients of the IHP and CCC variables are negative and significant.

Statistically significant coefficient for IHP variables indicates that extending the inventory holding period is detrimental to the market value of the sampled companies. Regarding the CCC variable, the estimation result reveals that an increase in the cash conversion cycle is inversely related to firms’ market value.

The estimation result of the CR variables reveals that the market performance of the firms with higher liquidity is higher compared to the other firms in the sample. Similarly, the positive and significant coefficient of the LEV variable shows that increasing borrowing is associated with higher market performance. According to Table 6.16., another control variable that has a positive and significant effect on market performance is GRO. However, the SIZ variable is negatively associated with the market value of firms at the 1% level. This finding indicates that larger textile firms have lower market value.

As a result, the findings reported in Table 6.16. demonstrate that textile firms have efficient management in terms of IHP and CCC.

Table 6.16. Estimation results of the Driscoll-Kraay standard errors estimator for the full sample

	Dependent Variable: TQ			
	(1)	(2)	(3)	(4)
ARP	-0.00103			
	(0.000943)			
IHP		-0.00102***		
		(0.000204)		
APP			0.0000765	
			(0.000221)	
CCC				-0.00113**
				(0.000431)
CR	0.0243**	0.0281**	0.0240**	0.0321***
	(0.00899)	(0.00924)	(0.00935)	(0.00785)
LEV	0.629***	0.654***	0.624***	0.618***
	(0.141)	(0.139)	(0.137)	(0.129)
SIZ	-0.258***	-0.234***	-0.261***	-0.231***
	(0.0226)	(0.0244)	(0.0258)	(0.0197)
GRO	0.180***	0.156***	0.188***	0.161***
	(0.0434)	(0.0372)	(0.0485)	(0.0374)

cons	5.565***	5.179***	5.565***	5.146***
	(0.438)	(0.443)	(0.454)	(0.384)
Hausman	66.12***	62.22***	74.35***	60.59***
Wooldridge	44.807***	45.088***	45.142***	44.324***
Modified Wald	2.0e+05***	2.0e+05***	2.1e+05***	1.9e+05***
Pesaran's CD	53.889***	57.744***	49.692***	56.201***
Within R^2	0.1758	0.1815	0.1727	0.1876
F-statistic	56.77***	142.46***	1201.65***	161.83***
Obs.	2035	2035	2035	2035
No of firms	185	185	185	185
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6.17. presents the results obtained by estimating regression models investigating the influence of working capital variables on market performance for Brazilian textile firms. The estimation results in Table 6.17. show that there exists no significant relation between working capital components and market performance measured by Tobin's Q for Brazilian textile firms.

Regarding the control variables such as CR, LEV, and SIZ, we observe that all of these control variables have a negative and statistically significant effect on market performance.

The estimated coefficient of the CR variable implies that the firms pursuing a higher current ratio are not effectively using their assets in generating revenue. The estimated coefficient of the LEV variable suggests that firms with higher financial leverage have a lower market value. Lastly, the negative value of the estimated coefficient of the SIZ variable indicates that large firms cannot take advantage of economies of scale when compared to small firms.

Table 6.17. Estimation results of the Driscoll-Kraay standard errors estimator for Brazil

	Dependent Variable: TQ			
	(1)	(2)	(3)	(4)
ARP	0.00107			
	(0.00172)			
IHP		0.000971		
		(0.00167)		
APP			0.00416	
			(0.00319)	
CCC				-0.000983
				(0.000859)
CR	-0.0676**	-0.0712**	-0.0590	-0.0600**
	(0.0225)	(0.0267)	(0.0498)	(0.0226)
LEV	-0.613***	-0.628***	-0.671**	-0.624***
	(0.179)	(0.152)	(0.288)	(0.143)
SIZ	-0.667***	-0.671***	-0.568*	-0.635***
	(0.163)	(0.179)	(0.294)	(0.188)
GRO	0.00655	0.0131	-0.00729	0.000381
	(0.0725)	(0.0708)	(0.170)	(0.0707)
cons	14.95***	15.03***	12.86**	14.58***
	(3.169)	(3.590)	(5.750)	(3.672)
Hausman	12.09**	55.00***	36.18***	16.79***
Wooldridge	20.327***	23.408***	18.661***	21.579***
Modified Wald	1248.76***	1626.72***	1115.09***	1806.70***

Pesaran's CD	2.664***	3.501***	0.842	3.833***
Within R^2	0.3982	0.4008	0.4265	0.4073
F-statistic	119.04***	169.53***	53.45***	115.80***
Obs.	132	132	132	132
No of firms	12	12	12	12
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6.18. presents the findings from the sub-sample of firms in the Indonesian textile industry. When the estimation results for companies in the Indonesian textile sector are evaluated, the negative value of the coefficient of the ARP variable leads to a decrease in the market value of textile firms because of the fact that it takes more time to collect receivables. Similarly, the negative coefficient estimation for the IHP variable shows that as the waiting time of the products takes longer, the market values of the firms tend to decrease. The estimated inverse association between the CCC variable and Tobin's Q variable shows that textile firms in Indonesia with a long CCC are more likely to have a lower market value. On the other hand, a positive and significant correlation is determined between the APP variable and market performance. This finding indicates that the increase in the payment period of the debts has a positive effect on the market performance.

In the equations in which Tobin's Q is used as the dependent variable, the results of the control variables imply that small firms with higher leverage have better market performance. Also, the effect of CR and GRO variables on market performance is negative. However, this effect is insignificant.

Table 6.18. Estimation results of the Random Effects estimator for Indonesia

	Dependent Variable: TQ			
	(1)	(2)	(3)	(4)
ARP	-0.00140**			
	(0.000617)			

IHP		-0.00213^{**}		
		(0.000788)		
APP			0.00385^{*}	
			(0.00217)	
CCC				-0.00167^{***}
				(0.000600)
CR	-0.0243	-0.0218	-0.0128	-0.0213
	(0.0363)	(0.0401)	(0.0395)	(0.0397)
LEV	1.315^{***}	1.411^{***}	1.211^{***}	1.321^{***}
	(0.439)	(0.426)	(0.378)	(0.388)
SIZ	-0.359^{**}	-0.419^{***}	-0.347^{***}	-0.377^{***}
	(0.148)	(0.160)	(0.111)	(0.145)
GRO	-0.107	-0.149	-0.147	-0.171
	(0.135)	(0.137)	(0.150)	(0.143)
cons	7.227^{***}	8.555^{***}	6.765^{***}	7.741^{***}
	(1.248)	(1.246)	(0.890)	(1.293)
Hausman	6.02	2.02	3.41	1.89
Wooldridge	39.105***	34.488***	42.628***	32.891***
Levene_Wo	4.0834734***	4.1645204***	3.1417777***	3.4440785***
Pesaran's CD	-1.826*	-1.697*	-0.666	-1.383
Overall R^2	0.1598	0.1904	0.1088	0.1863
Wald-statistic	22607.18***	904.07***	8394.09***	4825.81***
Obs.	121	121	121	121
No of firms	11	11	11	11

Estimator	RE	RE	RE	RE

Notes: Robust standard errors are reported in parentheses. RE is the Random Effects estimator. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6.19. presents the findings from the sub-sample of firm in the Turkish textile industry. From Table 6.19., an inverse association between IHP and CCC and Tobin's Q is observed. Therefore, the estimated negative coefficients of the IHP and CCC variables indicate that a decrease in period the IHP and CCC may help to improve firm value. The positive and highly significant coefficient estimation of the APP variable shows that the increase in debt payment periods of Turkish textile companies contributes to the market value. Lastly, Among the WCM variables, the only variable with insignificant coefficient is the ARP variable.

Concerning the LEV variable, the positive coefficient estimation of LEV only for model 1 suggests that firms having higher financial leverage tend to raise the market value. Besides, the negative and highly significant coefficient estimates of the SIZ variable demonstrate that bigger firms perform worse than smaller firms. According to Table 6.19., the coefficient of the other two control variables is not statistically significant.

Table 6.19. Estimation results of the Driscoll-Kraay standard errors estimator for Turkey

	Dependent Variable: TQ			
	(1)	(2)	(3)	(4)
ARP	-0.00103			
	(0.00118)			
IHP		-0.00136*		
		(0.000635)		
APP			0.00385***	
			(0.00106)	
CCC				-0.000941**

				(0.000335)
CR	-0.0128	-0.00322	-0.00417	-0.0117
	(0.0254)	(0.0604)	(0.0602)	(0.0596)
LEV	1.211***	0.287	0.348	0.343
	(0.345)	(0.226)	(0.235)	(0.224)
SIZ	-0.347***	-0.405***	-0.350***	-0.377***
	(0.0459)	(0.0471)	(0.0465)	(0.0439)
GRO	-0.147	0.242	0.191	0.243
	(0.132)	(0.305)	(0.298)	(0.311)
cons	6.765***	9.196***	8.260***	8.676***
	(0.890)	(0.908)	(0.891)	(0.819)
Hausman	22.26***	19.97***	17.80***	19.55
Wooldridge	7.459**	9.298***	8.082**	7.711**
Modified Wald	1443.65***	2746.71***	1659.29***	2142.65***
Pesaran's CD	13.713***	13.594***	14.075***	12.819***
Within R^2	0.5001	0.5084	0.4993	0.5063
F-statistic	1658.25***	566.16***	159.10***	68.67***
Obs.	187	187	187	187
No of firms	17	17	17	17
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6.20. reports the regression results regarding the effect of WCM of Indian textile firms on financial performance. When the variables representing the working capital in Table 6.20. are investigated, it is seen that the coefficients of all variables, except APP, are negative and statistically significant. These findings indicate that lower ARP, IHP, and CCC enhance

firm market value. Consequently, the findings reported in Table 6.20. imply that firms have efficient management of all WCM components except for APP.

The coefficient estimates on our control variables demonstrate that the variables like CR, LEV, and GRO have positive and significant impact on the Tobin's Q value. Whereas we observe that the SIZ variable has a negative and significant effect on the Tobin's Q value of firms.

Table 6.20. Estimation results of the Driscoll-Kraay standard errors estimator for India

	Dependent Variable: TQ			
	(1)	(2)	(3)	(4)
ARP	-0.00149*			
	(0.000738)			
IHP		-0.000960***		
		(0.000218)		
APP			0.00000343	
			(0.000287)	
CCC				-0.00120**
				(0.000444)
CR	0.0375***	0.0398***	0.0353***	0.0461***
	(0.00778)	(0.00809)	(0.00818)	(0.00846)
LEV	0.789***	0.776***	0.755***	0.767***
	(0.139)	(0.137)	(0.140)	(0.130)
SIZ	-0.138***	-0.124**	-0.151***	-0.107**
	(0.0419)	(0.0437)	(0.0459)	(0.0342)
GRO	0.230***	0.212***	0.242***	0.224***
	(0.0564)	(0.0544)	(0.0549)	(0.0543)
cons	3.185***	2.978***	3.367***	2.699***
	(0.764)	(0.781)	(0.783)	(0.635)
Hausman	37.27***	41.39***	44.68***	37.17***
Wooldridge	36.896***	36.845***	36.973***	36.758***

Modified Wald	86816.28***	1.0e+05***	1.1e+06***	1.1e+05***
Pesaran's CD	88.852***	90.291***	86.976***	89.106***
Within R^2	0.2160	0.2181	0.2097	0.2262
F-statistic	138.20***	136.52***	388.31***	1521.97***
Obs.	1595	1595	1595	1595
No of firms	145	145	145	145
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

6.2.4.6.3. Summary of Findings from Regression Models

The summary of the results of the regression model in which ROA and TQ are employed as the dependent variables for each country is given in Table 6.21. A summary of the findings obtained from the regression models for the effect of working capital on financial performance is given in Table 6.21. Based on the results summarized in Table 6.21., it can be concluded that the working capital variables for textile firms in the FFCs are more related to the market-based financial performance measure rather than the accounting-based financial performance measure.

Table 6.21. The Summary of the Results of the Regression Model

	Full Sample		**Brazil**		**Indonesia**		**Turkey**		**India**	
	ROA	**TQ**	**ROA**	**TQ**	**ROA**	**TQ**	**ROA**	**TQ**	**ROA**	**TQ**
ARP	+*		-**			-**	+**			-*
ICP		-***				-**		-*		-***
APP						+*		+***		
CCC		-**	-*			-***		-**		-**

7. CONCLUSION

In this study, it is aimed to empirically investigate whether there is an association between working capital variables and financial performance measures. Firms operating in the textile sector of the FFCs (i.e., Brazil, South Africa, Indonesia, Turkey and India) in the period covering the years 2010-2020 constitute the sample of our study. However, South Africa companies are excluded from the sample due to lack of data. Finally, of the textile firms that made up our sample, 12 operate in Brazil, 11 in Indonesia, 17 in Turkey, and the remaining 145 in India. in line with the previous literature, ROA and Tobin's Q are employed as financial performance indicators of textile firms, respectively. The variables that are frequently used in the working capital indicator such as accounts receivable period, inventory holding period, accounts payable period, and cash conversion cycle are included in the regression models as independent variables. In addition, firm-level control variables such as firm size, financial leverage, sales growth and liquidity level are also included in the regression models.

Before estimating the coefficients in the regression models determined in the study, the correlation coefficients between the variables were calculated by using the Spearman test to investigate the multi-collinearity. Then, summary statistics on the financial variables used in the study are given. The Hausman test was used to determine the most suitable estimator within the framework of static panel data analysis.

Following deciding that the FEs (REs) estimator is the most appropriate estimator for the estimation of the coefficients in the financial performance models, we carried out diagnostic tests to investigate the presence of serial correlation, heteroscedasticity, and cross-sectional dependence in the error terms in the panel data. Robust estimators are used to make parameter estimations as a result of the diagnostic tests performed.

The findings obtained from the ROA model covering all textile companies can be summarized as follows;

i. There exists a positive and statistically significant connection between ARP and ROA. This finding supports the finding of Amponsah-Kwatiah & Asiamah (2021).

ii. No significant relation is found between other variables (IHP, APP and CCC) representing working capital strategies and ROA.

iii. As for firm-level control variables, it is concluded that the variables like firm size, financial leverage and sales growth except for liquidity variable are significant determinants of ROA.

The findings of the estimated ROA model using Brazilian textile companies can be summarized as follows;

i. We have found a negative association between ARP and ROA. This conclusion is supported by many studies (e.g., Deloof, 2003; García-Teruel & Martínez-Solano, 2007; Mansoori & Muhammad, 2012; Aygun, 2012; Pais & Gama, 2015; Samiloglu & Akgun, 2016; Keskin & Gokalp, 2016; Kayani et al., 2019; Gołaś, 2020; Singh, 2021) in the previous literature.

ii. Our findings indicate that an increase in CCC leads to a decrease in ROA. This finding is consistent with the results of the studies carried out by Yucel & Kurt (2002), Deloof (2003), García-Teruel & Martínez-Solano (2007), Mansoori & Muhammad (2012), Ogundipe et al. (2012), Aygun (2012), Enqvist et al. (2014), Yazdanfar & Ohman (2014), Pais & Gama, (2015), Dalci et al. (2019), Kayani et al. (2019), NGuyen et al. (2020), Gołaś (2020), Braimah et al. (2021), and Singh (2021).

iii. Our findings also demonstrate that the estimated coefficients of IHP and APP are not significant.

iv. Regarding firm-level control variables, it is concluded that financial leverage and sales growth are significant variables in ROA models.

The findings of the estimated ROA model using Indonesian textile companies can be summarized as follows;

i. Neither CCC nor the variables constituting CCC are found to be statistically significant in explaining the change in the ROA models.

ii. While the effect of financial leverage and sales growth is significant, the influence of liquidity and firm size are not significant.

The results of the estimated ROA model for companies operating in the Turkish textile sector are as follows;

i. Among the working capital variables, the only variable that is statistically significant is ARP. The effect of this variable is positive. The estimated positive coefficient of the ARP variable is also consistent with those of the study conducted by Sharma & Kumar (2011), Amponsah-Kwatiah & Asiamah (2021) and Alvarez et al. (2021).

ii. Other working capital variables are not significant determinants of ROA. These results, found for Turkish companies, are similar to those of the study conducted by Atmaca (2016).

iii. Firm size, financial leverage and growth in sales are found to be significant in explaining the change in ROA.

The findings of the ROA model employing Indian textile companies can be summarized as follows;

i. Estimation results for Indian textile companies show that the coefficients of variables representing working capital indicators are not found statistically significant at any significance level. Sharma & Kumar (2011) reported that the estimated coefficients of all working capital variables are insignificant except for the ARP variable for 263 non-financial Indian firms. Similar findings were also reported by Vahid et al. (2012) for 50 Iranian pharmaceutical and cement companies.

ii. As for the control variables, firm size, financial leverage and sales growth have a significant impact on ROA. However, it has not been determined that liquidity level has a significant effect on ROA.

The results obtained from the Tobin's Q model for all textile companies can be summarized as follows;

i. It is observed that the coefficients of the IHP and CCC variables are negative and significant. Results from IHP and CCC variables are similar to the those of Ogundipe et al. (2012) and NGuyen et al. (2020) but different from the results reported by Abuzayed (2012). In addition, ARP and APP variables are not statistically significant determinants of Tobin's Q of textile firms.

ii. All firm-level variables included in Tobin's Q model are significant.

The findings of the Tobin's Q model using Brazilian textile companies can be summarized as follows;

i. The estimation results imply that there exists no significant link between working capital components and market performance measured by Tobin's Q. Similarly, Abuzayed (2012) reported similar findings for a sample including Jordanian firms, except for the APP variable.

ii. Regarding the control variables, we observe that liquidity ratio, firm size and leverage have a negative and statistically significant effect on market performance of the firms.

The findings of the estimated Tobin’s Q model employing textile companies in Indonesia can be summarized as follows;

i. All variables employed to measure working capital policies are found to be significant in the Tobin’s Q model. More specifically, the predicted coefficients of the ARP, IHP, and CCC variables are negative while the predicted coefficients of the APP variable are positive. The negative and significant coefficients of the ARP, IHP, and CCC variables are consistent with those of Hingurala et al. (2017). Moreover, Perera & Priyashantha (2018) found in their study that the coefficient of APP was positive.

ii. Among the firm level control variables, financial leverage and firm’s size are the significant variables in the Tobin’s Q model.

The results of Tobin’s Q model for the Turkish textile companies are as follows;

i. There is a significant correlation between APP, IHP, and CCC variables and Tobin’s Q. The influence of IHP and CCC is negative. Whereas, the effect of the APP variable is positive. These results are in line with the results of the study conducted by Aygun (2012), except for the APP variable.

ii. Tobin’s Q is significantly correlated with financial leverage and firm size.

The findings of Tobin’s Q model for Indian textile companies can be summarized as follows;

i. It is observed that the coefficients of all variables, except APP, are negative and statistically significant. These results imply that lower ARP, IHP, and CCC enhance market based financial performance of Indian textile companies.

ii. Tobin's Q is significantly correlated with liquidity level, financial leverage, firm size, and sales growth. More specifically, variables like liquidity level, financial leverage, and sales growth enhance firms' market performance. However, firm size leads to a decrease in the market performance of firms.

The results obtained from this study have important implications for all stakeholders in the textile industry. When the panel data analysis estimation results are evaluated in general, it can be stated that the influence of working capital management on financial performance differs significantly according to the selected performance variable. In addition, when the main sample is divided into sub-samples, the linkage between working capital variables and financial performance variables tends to change. When all these findings are assessed together, it can be concluded that successful working capital management in the textile sector depends on both taking into account the differences between countries (in terms of economic conditions, development of capital and financial markets, daily work habits, working capital policies followed, etc.) and evaluating each element that forms the working capital individually.

Regarding the research topic, the influence of working capital components can be investigated in depth by using different performance measures in future studies. In addition, future studies can benefit from dynamic panel methodology. Moreover, the research subject can be deepened through samples consisting of different country groups. Finally, non-linear relationships can be tested in the relationship between working capital management and financial performance.

REFERENCES

Abdeen AM, Haight TG. (2002). A fresh look at economic value added: Empirical study of the fortune five-hundred companies, *The Journal of Applied Business Research, 18* (2): 27-35. https://doi.org/10.19030/jabr.v18i2.2112

Abeyrathna SPGM, Priyadarshana AJM. (2019). Impact of firm size on profitability. *International Journal of Scientific and Research Publications*, *9*(6): 561-564.

Ademola, OJ. (2014). Working capital management and profitability of selected quoted food and beverages manufacturing firms in Nigeria. *European Journal of Accounting Auditing and Finance Research, 2*(3): 10-21.

Adhikari R, Yamamoto Y. (2007). The textile and clothing Industry: Adjusting to the post-quota world. *Industrial Development for the 21st Century: Sustainable development perspectives*, 183-234.

Afrifa GA, Tauringana V, Tingbani I. (2014). Working capital management and performance of listed SMEs. *Journal of Small Business & Entrepreneurship*, 27(6): 557-578. https://doi.org/10.1080/08276331.2015.1114351

Ahangar N. (2021). Is the relationship between working capital management and firm profitability non-linear in Indian SMEs? *Small Enterprise Research, 28*(1), 23-35. https://doi.org/10.1080/13215906.2021.1872685

Ahmed SU, Mahtab N, Islam MN, Abdullah M. (2017). Impact of working capital management on profitability: A study on textile companies of Bangladesh. *J Bus Fin Aff*, 6(4): 1-7. https://doi: 10.4172/2167-0234.100029

Akal Z. (2000). *Isletmelerde Performans Olcum ve Denetimi*, 4. Baski. Ankara, Milli Produktivite Merkezi Yayinlari.

Akbar A. (2014). Working capital management and corporate performance: Evidences from textile sector of China. *European Academic Research*, *2*(9): 11440-11456.

Akbar M, Akbar A, Draz MU. (2021). Global financial crisis, working capital management, and firm performance: Evidence from an Islamic market index. *SAGE Open*, 11(2):1-14 https://doi: 10.1177/21582440211015705

Akel, V. (2015). Kirilgan besli ulkelerinin hisse senedi piyasalari arasindaki esbutunlesme analizi, *International Journal of Management Economics & Business/Uluslararasi Yonetim Iktisat ve Isletme Dergisi*, *11*(24): 75-96. https://doi: 10.17130/ijmeb.2015.11.24.719

Akguc O. (2013a). *Finansal Yonetim*, 9. Baski, Istanbul, Avciol Basim Yayin.

Akguc O. (2013b). *Mali Tablolar Analizi*, Genisletilmiş 15. Baski, Istanbul, Avciol Basim Yayin.

Akgun AI. (2021) *Working Capital Management*, 1st ed. Ankara, Ekin Basim Yayin.

Akin O, Onat O, Eser, E. Dalgar R. (2015) Kobilerin alacak yonetimi politikalarinin belirlenmesine yonelik bir arastirma: Burdur, Isparta ve Bucak organize sanayi bolgelerinde bir uygulama. *Suleyman Demirel Universitesi Iktisadi ve Idari Bilimler Fakultesi Dergisi*, 20(4): 285-304.

Akin O, Eser ED. (2014). Isletme sermayesi yonetimi: Mermer isletmelerine yonelik bir arastirma, *Karamanoglu Mehmetbey Universitesi Sosyal ve Ekonomik Arastirmalar Dergisi*, 16(27): 45-55.

Akinci N, Unlen M. (1988). *Mali Tablolar Analizi*, 1. Baski, Izmir, Baris Yayinlari.

Aksoy A, Yalciner K. (2008). *Isletme Sermayesi Yonetimi*, 4. Baski, Ankara, Gazi Kitabevi.

Aktan, CC, Vural YI. (2004). *Rekabet Gucu ve Rekabet Stratejileri*, Ankara, TISK Yayinlari.

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.

Alarussi AS, Alhaderi SM. (2018). Factors affecting profitability in Malaysia. *Journal of Economic Studies*,45(3): 442-458. https://doi: 10.1108/JES-05-2017-0124

Alexander J. (2018). *Financial Planning & Analysis And Performance Management*, 1st Ed. New Jersey, John Wiley & Sons Inc.

Allen F, Chakrabarti R, De S, Qian M. (2012), Financing firms in India. *Journal of Financial Intermediation*, 21(3): 409-445.

Alparslan A, Aygun M. (2013). Kurumsal sosyal sorumluluk ve firma performansi. *Suleyman Demirel University The Journal of Faculty of Economics and Administrative Sciences*, *18*(1): 435-448.

Alsu E. (2017). Effect on profitability of capital structure panel data analysis on BIST 100. *Gaziantep University Journal of Social Sciences*, *16*(2): 303-312. https://doi.org/10.21547/jss.300017

Altaf N, Ahmad F. (2019). Working capital financing, firm performance and financial constraints: Empirical evidence from India. *International Journal of Managerial Finance*, 15(4): 4464-477.

Alvarez T, Sensini L, Vazquez M. (2021). Working capital management and profitability: Evidence from an emergent economy. *International Journal of Advances in Management and Economics*, 11(1): 32-39.

Anderson EW, Fornell C, Lehmann DR. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing*, *58*(3): 53-66.

Ankara Sanayi Odasi. (2016) Endonezya Cumhuriyeti Ulke Notu, p. 5. http://www.aso.org.tr/wp-content/uploads/2017/09/endonezya.pdf. 25 May 2022.

Anton SG, Afloarei Nucu AE. (2020). The impact of working capital management on firm profitability: Empirical evidence from the Polish listed firms. *Journal of Risk and Financial Management*, 14(1): 1-14. https://dx.doi.org/10.3390/jrfm14010009

Areias PMA, Belytschko T. (2005). Analysis of three-dimensional crack initiation and propaga-tion using the extended finite element method. *International Journal for Numerical Methods in Engineering*, 63(5): 760-788.

Arifeen N, Hussain M, Kazmi S, Mubeen M, Mughal SL, Akbar W. (2014). Measuring business performance: Comparison of financial, non financial and qualitative indicators. *European Journal Of Business And Management,* 6(4): 38-45.

Arnold G. (2005). *The Handbook Of Corporate Finance: A Business Companion To Financial Markets, Decisions And Techniques*, 1th ed. England, Harlow, Prentice Hall.

Asad, M. (2012). Working capital management and corporate performance of textile sector in Pakistan. *A Research Journal of Commerce, Economics and Social Sciences*, *6*(1): 100-114.

Assadi D. (2003). Do religions influence customer behavior? Confronting religious rules and marketing concepts. *Databases*, *22*(10): 2-13

Atilgan T, Sen A. (2006). Tekstil ve hazir giyim sektorunde 01 Ocak 2005 tarihinden itibaren uygulanmaya baslayan korunma onlemleri ve Turkiye, *Tekstil ve Konfeksiyon*, 4:148.

Atilgan T. (2006). Tekstil ve hazir giyim sektorunde deger zinciri ve ekonomik etkileri. *Tekstil ve Konfeksiyon Dergisi, Ocak-Mart*. 1(20): 260-270.

Atilla Tekstil. Hindistan'da Tekstil Sektoru. https://atillatekstil.com/tekstil-bilgilendirme-atolyesi/hindistanda-tekstil-sektoru/. 25 May 2022.

Atkar A, Pabba M, Sekhar SC, Sridhar S. (2021). Current limitations and challenges in the global textile sector. In: *Fundamentals of Natural Fibres and Textiles,* Woodhead Publishing, 741-764.

Atmaca M. (2016). Finansal oranlar araciligiyla calisma sermayesi bilesenlerinin karliliga etkisi: Borsa Istanbul'da islem goren kimya, plastik ve kaucuk sirketlerinde bir arastirma. *Yonetim Bilimleri Dergisi*, 14(28): 633-649.

Atrill P. (2012). *Financial Management for Decision Makers*, 6th ed. London, Pearson Education Limited.

Audretsch, DB, Elston JA. (2002). Does firm size matter? Evidence on the impact of liquidity constraints on firm investment behavior in Germany. *International Journal of Industrial Organization*, 20(1): 1-17.

Aydin N, Sen M, Berk N. (2012). Sevil G, Basar M. (Editor) In: Finansal Yonetim I, Eskisehir, Anadolu Universitesi Yayini.

Aydin N, Ceylan A, Basar M, Coskun M, Bakir H. (2004). Aydin N. (Editor) *Finansal Yonetim*, Eskisehir, 2. Baski, Anadolu Universitesi Yayini.

Aygun M. (2012). Firma performansi uzerinde calisma sermayesinin etkisi: Turk imalat sektoru uzerine bir uygulama. *Ege Academic Review*, 12(2): 215-223.

Baker HK, Gary EP. (2005). *Understanding Financial Management*, 1st ed. United Kingdom, Blackwell Publishing Ltd.

Banos-Caballero S, Garcia-Teruel PJ, Martinez-Solano P. (2007). Effect of working capital management on SME profitability. *International Journal of Management Finance*, 3(2):164-177.

Banos-Caballero S, Garcia-Teruel PJ, Martinez-Solano P. (2010). Working capital management in SMES, *Accounting & Finance*, 50: 511-527.

Banos-Caballero S, García-Teruel PJ, Martínez-Solano P. (2013). The speed of adjustment in working capital requirement. *The European Journal of Finance*, 19(10): 978-992.

Barbosa D. (2010) The importance of the textile industry in the Brazilian Economy. https://otexa.trade.gov/webinars/brazil_72010/2-BrazilWebinarBARBOSA.pdf 25 May 2022

Barrow C. (2008). *Practical Financial Management*, 7th ed. London, Kogan Page.

Baum CF. (2006). *An Introduction to Modern Econometrics Using Stata*, 1st ed. USA, Stata Press.

Baum, CF. (2001). Residual diagnostics for cross-section time series regression models. *The Stata Journal*, 1(1): 101-04.

Becker-Blease J R, Kaen F R, Etebari A, Baumann H. (2010). Employees, firm size and profitability of US manufacturing industries. *Investment Management and Financial Innovations,* 7(2):7-23.

Bektore S. (1970). *Isletmelerde Calisma Sermayesi Analizi*, Ankara, Eskisehir Iktisadi ve Ticari Ilimler Akademisi Yayini, Sevinc Matbaasi.

Belkaoui, A, Picur R. (1993). An analysis of the use of accounting and market measures of performance, CEO experience and nature of deviation from analyst forecasts. *Managerial Finance*, *19*(2): 33-54.

Berk J, DeMarzo P, Harford J. (2016). *Fundemantal of Corporate Fin*ance, 4th edition, New York, Prentice Hall.

Berk N. (2015). *Finansal Yonetim*, 11th Baski, Istanbul, Turkmen Kitabevi.

Bertinetti GS, Cavezzali E, Gardenal, G. (2013). The effect of the enterprise risk management implementation on the firm value of European companies. *Department of Management, Università Ca'Foscari Venezia Working Paper Series*, 1-22. doi:10.2139/ssrn.2229271

Bizvibe. Global Textile Industry Facts and Figures. https://blog.bizvibe.com/blog/top-10-largest-textile-producing-countries. 25 May 2022.

Bodhanwala S, Bodhanwala R. (2018). Does corporate sustainability impact firm profitability? Evidence from India. *Management Decision*. 56(8): 1734-1747. https://doi:10.1108/MD-04-2017-0381

Boopathi C, Leeson J. (2016). Concept of working capital management. *International Journal of Commerce Business and Management*, 5(2): 372-377.

Boțoc C, Anton, SG. (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.

Braimah A, Mu Y, Quaye I, Ibrahim, AA. (2021). Working capital management and SMEs profitability in emerging economies: The Ghanaian case. *SAGE Open*, 11(1): 1-16 https://doi.org/10.1177/2158244021989317

Brealey RA, Myers SC, Marcus AJ. (2019). *Fundamentals of Corporate Finance*, 10th ed. USA, The McGraw-Hill Companies.

Brealey, RA, Myers SC, Allen, F. (2016). *Principles of Corporate Finance*, 6th ed., New York, McGraw-Hill/Irwin.

Brigham EF, Houston JF. (2015). *Fundamentals of Financial Management*, 14th ed. Boston, South-Western Cengage Learning.

Buker S, Asikoglu R, Sevil G. (1985) *Finansal Yonetim*, Eskisehir, Anadolu Universitesi Basimevi.

Burkhanov A, Bakhodirovna BD. (2021). Evaluation of economic potential of textile industry enterprises. *Vlakna a Textil*, *28*(2): 9-21.

Byrne, BA. (1984) *Working Capital Management*. http://commons.lib.niu.edu/handle/10843/16587

Canakcioglu M, Demirbas M. (2009). Performans olcum yontemleri ile kurumsal karne yaklasimi. *Istanbul Universitesi Iktisat Fakultesi Mecmuasi*, 59 (2): 213-238.

Canbas S, Dogukanli H, Duzakin H, Iskenderoglu O. (2005). Performans olcumunde tobin q oraninin kullanilmasi: Hisse senetleri IMKB'de islem goren sanayi isletmeleri uzerinde bir deneme. *Muhasebe ve Finansman Dergisi*, (28): 24-36.

Cao D, Berkeley N, Finlay D. (2014). Measuring sustained competitive advantage from resource-based view: Survey of Chinese clothing industry. *Journal of sustainable development*, 7(2), 89-104

Cantele S, Zardini A. (2018). Is sustainability a competitive advantage for small business? An empirical analysis of possible mediators in the sustainability-financial performance relationship. *Journal of Cleaner Production*, 182: 166–176.

Caunt RA. (1989). Competitiveness. *Min. Eng. (London);(United Kingdom)*, 148(332):497-501.

Cercel ON, Sokmen AG. (2019). Calisma sermayesi yonetiminin firma karliligi uzerindeki etkisi: BIST’te islem goren metal esya, makine ve gerec yapim sektoru uzerinde bir arastirma. *Cag Universitesi Sosyal Bilimler Dergisi*, 16(2): 35-42.

Ceylan A, Korkmaz T. (2017). *Finansal Yonetim: Temel Konular*, Ankara, Ekin Yayinevi.

Ceylan A, Korkmaz T. (2018). *Fundamentals of Financial Management*, 11th ed. Bursa, Ekin Publishing House.

Chambers N, Cifter A. (2022). Working capital management and firm performance in the hospitality and tourism industry. *International Journal of Hospitality Management*, 102,1-11 https://doi.org/10.1016/j.ijhm.2022.103144.

Chatterjee S. (2012). The impact of working capital on the profitability: Evidence from the Indian Firms (PhD Thesis), India: London School of Business & Finance SSRN: 2125228.

Churchill NC, Mullins, J. W. (2001). How fast can your company afford to grow. *Harvard business review*, *79*(5): 135-143.

Coban, O, Kok R. (2005). Turkiye tekstil endustrisi ve rekabet gucu: AB ulkeleriyle karsilastirmali bir analiz ornegi, 1989-2001. *Iktisat Isletme ve Finans*, *20*(228), 68-81.

Collins JH, Shackelford DA. (1997). Global organizations and taxes: An analysis of the dividend, interest, royalty, and management fee payments between US multinationals' foreign affiliates. *Journal of Accounting and Economics*, 24(2): 151-173.

Conyon MJ, He L. (2014). CEO turnover in China: The role of market-based and accounting performance measures. *The European Journal of Finance*, 20(7-9): 657-680.

Cooper R. (2004). *Corporate Treasury and Cash Management*. 1st ed. New York, Springer, Palgrave Macmillan.

Corovic E, Jovanovic P, Ristic L. (2013). Current trends on the world textile market and the competitiveness of the Serbian textile industry. *Fibres & Textiles in Eastern Europe*, 101(5): 8-12

Coskun E, Kok D. (2011). Calisma sermayesi politikalarinin kârlilik uzerine: Dinamik panel uygulamasi. *Ege Akademik Bakis*, 11: 75-85.

Dalci I, Tanova C, Ozyapici H, Bein, MA. (2019). The moderating impact of firm size on the relationship between working capital management and profitability. *Prague Economic Papers*, 28(3): 296-312.

Dalton T. (2007). Business on a Shoestring-Cash Management, 1st ed. Edinburgh, A&C Black.

Damodaran A. (2007). Return on capital (ROC), return on invested capital (ROIC) and return on equity (ROE): measurement and implications. *Sterns School Of Business*, 12. http://dx.doi.org/10.2139/ssrn.1105499

Das S. (2015). Impact of cash conversion cycle on cash holding-A study on FMCG sector. *Accounting*, 1(1): 1-16. Doi:10.5267/j.ac.2015.11.002

Dayi F. (2015). Alacak Yonetimi. Kaya F. (Editor) *Finansal Yonetim*, Istanbul, Beta Basim.

De Hoyos RE, Sarafidis V. (2006). Testing for cross-sectional dependence in panel-data models. *The Stata Journal* 6(4): 482-496.

Decemrie, C. B. (2011). Factors influencing the companies' profitability. *Annales Universitatis Apulensis Series Oeconomica*, 2(13): 215-224.

Deloof M. (2003). Does working capital management affect profitability of Belgian firms?. *Journal of Business Finance & Accounting*, 30(3-4): 573-588.

Demirgunes K, Samiloglu F. (2008). Isletme sermayesi yonetiminin karlilik uzerindeki etkisi. *12. Ulusal Finans Sempozyumu*, 22-25 Ekim, Kayseri, 238-250.

Dermine J, Bissada JY. (2007). *Asset & Liability Management: A Guide to Value Creation And Risk Control, Financial Times.* 2nd ed. New Jersey, Prentice Hall.

Dis Ekonomik Iliskiler Kurulu (DEIK). (2014). Turkiye-Endenozya Is Konseyi Endonazya Ulke Bulteni, p. 8 https://www.deik.org.tr/uploads/endonezya-ulke-bulteni-2014.pdf 25 May 2022.

Dincsoy, MO. (2016). Kirilganlik gostergeleri ve kirilgan besli ulkeleri uzerine bir inceleme. *The Journal of Academic Social Sciences*, 22(22), 199-216.

Divestopedia. Working Capital Cycle. http://www.divestopedia.com/definition/1234/working-capital-cycle-wcc. 25 May 2022.

Dizkirici SA. (2015). Stok Yonetimi. In: Kaya F. (Editor) *Finansal Yonetim,* Beta Basim.

Dogan M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, 4(4): 53-59.

Driscoll JC, Kraay AC. (1998). Consistent covariance matrix estimation with spatially dependent panel data. *Review of Economics and Statistics,* 80(4): 549-60.

Drukker DM. (2003). Testing for serial correlation in linear panel-data models. *Stata Journal*, 3(2): 168-77.

Duplat CA. (2004) *Analyser Et Maîtriser La Situation Financière De Son Entreprise*, Paris, Librairie Vuibert.

Durdu D, Aydin A. (2021). Calisma sermayesi yonetiminin firma kârliligi uzerindeki etkisi: BIST'te gida, tutun ve icki sektoru uzerine bir uygulama. *Kesit Akademi Dergisi*, 7(29): 437-453.

Ebben JJ, Johnson AC. (2011). Cash conversion cycle management in small firms: Relationships with liquidity, invested capital, and firm performance. *Journal of Small Business & Entrepreneurship*, 24(3): 381-396.

Egilmez M. Kirilgan Besli. https://www.mahfiegilmez.com/2013/11/krlgan-besli.html . 25 May 2022.

Egilmez M. Kirilgan Ekonomilerin En Kirilganlari. http://www.mahfiegilmez.com/2015/09/krlgan-ekonomilerin-en-krlganlar.html. 25 May 2022.

Egolum PU, Urom EO. (2021). Cash conversion cycle and firm performance nexus: evidence from listed non-financial companies in Nigeria. *Journal of Business & Economy*, 12(2): 1-13.

Ehrhardt MC, Brigham EF. (2011) *Financial Management: Theory And Practice*, USA, South-Western Cengage Learning.

Eljelly AM. (2004). Liquidity-profitability tradeoff: An empirical investigation in an emerging market. *International Journal of Commerce and Management,* 14(2): 48-61.

Enqvist J, Graham M, Nikkinen J. (2014). The impact of working capital management on firm profitability in different business cycles: Evidence from Finland. *Research in International Business and Finance*, 32: 36-49.

Eraslan IH, Helvacioglu K, Deniz A, Bakan I. (2008). Deger zinciri (value chain) yontemi ile Turk tekstil ve hazir giyim sektorunun degerlendirilmesi. *Afyon Kocatepe Universitesi I.I.B.F. Dergisi*, 10(2): 307-332.

Ercan, MK, Ban U. (2009). *Degere Dayali Isletme Finansi: Finansal Yonetim*, Ankara, Gazi Kitabevi.

Erdem, E. (2016). Sanayi devriminin ardindan Osmanli sanayilesme hamleleri: Sanayi politikalarinin dinamikleri ve zaafiyetleri. *Erciyes Universitesi Iktisadi ve Idari Bilimler Fakultesi Dergisi*, (48): 17-44.

Erdogan M. (1989) *Isletmelerin Nakit Yonetiminde Nakit Butcelerinin Hazirlanmasi ve Baglantili Tablolar*, Eskisehir, Anadolu Universitesi Yayinlari.

Erdogan M. (1990) *Isletme Finansmani*, Diyarbakir, Dicle Universitesi Diyarbakir Meslek Okulu Yayinlari.

Erem I, Akyuz Y. (2014). Piyasa katma degerini aciklamada ekonomik katma degerini aciklamada geleneksel performans olcutleri karsisindaki durumunun incelenmesi, *Suleyman Demirel Universitesi Iktisadi ve Idari Bilimler Fakultesi Dergisi*, 19 (3): 371-385.

Erkan B, Batbayli S. (2018) Kirilgan Besli Ekonomilerin Dis Ticaret Uzmanlasma Duzeyi: Karsilastirmali Sektorel Analiz. *Journal Of Institute Of Economic Development And Social Researches*. 4(9): 306-319

Erol, C. (1991). *Nakit Akimi Yaklasim Yontemiyle Kredi Degerlendirmesi: Mali Tablolar Analizi*. 2. Baski, Turkiye Bankalar Birligi.

Ersin F. (2014). Yukselen Ekonomiler ve Kirilgan Besli: Turkiye Uzerine Bir Degerlendirme. *Bankacilik ve Finansal Arastirmalar Dergisi (BAFAD)1(1)*: 43-51.

Esi B. (2017). Turk tekstil endustrisi ve gelisimi. *Journal of Awareness*, *2*(Special): 643-663.

Ertugrul M. (2009). Finansal performans olcumunde donusumlerin Turkiye acisindan degerlendirilmesi. *Anadolu Universitesi Sosyal Bilimler Dergisi*, 9(1):19-46.

Farhan M, Hussain RI, Khan SN, Tahir MS, Bhatti H. (2020). The relationship among the corporate reputation, customer satisfaction, customer loyalty and behavioral intentions. A study on the pakistan textile industry. *International Journal of Disaster Recovery and Business Continuity*, 11(3): 1-13.

Farris II, MT, Hutchison PD, Hasty RW. (2005). Using cash-to-cash to benchmark service industry performance. *Journal of Applied Business Research* (JABR), 21(2): 113-124. https://doi.org/10.19030/jabr.v21i2.1494

Fibre2fashion. Indonesian textiles industry likely to pull through global pandemic. https://www.fibre2fashion.com/industry-article/8679/indonesian-textiles-industry-likely-to-pull-through-global-pandemic. 25 May 2022.

Filbeck G, Krueger TM. (2005). An analysis of working capital management results across industries. *American Journal Of Business*, 20(2):11-18.

Firer C. (1995). Investment basics: XXXI. Sustainable growth models. *Investment Analyst Journal*, 24(41): 57-58.

Firth M. (1976) *Management of Working Capital*, 1st ed. London and Basingstoke, The Macmillan Press LTD.

Fischer M, Volckner F, Sattler H. (2010). How important are brands? A cross-category, cross-country study. *Journal of Marketing Research*, *47*(5): 823-839.

Fonseka MM, García Ramos C, Tian, G.- liang. (2012). The most appropriate sustainable growth rate model for managers and researchers. *Journal of Applied Business Research (JABR)*, *28*(3): 481–500. https://doi.org/10.19030/jabr.v28i3.6963

Frolova VB, Borisova OV, Lazarev MP. (2020, November). Financial Aspects of Companies Sustainable Growth. In *Innovative Economic Symposium* (p. 784-793). Springer, Cham.

Ganesan V. (2007). An analysis of working capital management efficiency in telecommunication equipment industry. *Rivier Academic Journal*, 3(2): 1-10.

Gautam S, Lal M. (2020). Analysing competitiveness and trade performance: Evidence from Indian textile industry and its select competitors. *Transnational Corporations Review*, *12*(4): 406-424.

Gereffi G. (2002). Outsourcing and Changing Patterns of International Competition in the Apparel Commodity Chain, Paper presented at the conference on Responding to Globalization: Societies, Groups, and Individuals, Hotel Boulderado, Boulder, Colorado, April 4-7.

Gibson CH. (2008). *Financial Reporting & Analysis*, 11th ed. Canada, South-Western Cengage Learning.

Gitman LJ, Zutter CJ. (2015). *Principles of Managerial Finance*, 14th ed. Harlow, Pearson Education.

Gitman LJ. (1974). Estimating corporate liquidity requirements: A simplified approach, *The Financial Review*, 9(3): 79–88.

Global-rates, http://www.global-rates.com/interest-rates/central-banks/central-banks.aspx 25 May 2022.

Gocer I, Akin T. (2016). Kirilgan beslide tasarruf-yatirim aciginin ekonomik buyumeye etkileri: Yeni nesil bir ekonometrik analiz. *Ege Akademik Bakis*, 16(2): 197-210.

Goddard J, Phil M, Wilson J. (2004). Dynamics of Growth And Profitability in Banking. *Journal Of Money, Credit & Banking*, 36 (6):1069-1090.

Gokbulut, RI. (2015). Nakit Yonetimi. In: Kaya F. (Editor) *Finansal Yonetim*, Istanbul, Beta Basim.

Gonenli A. (1988). *Isletmelerde Finansal Yonetim*, Istanbul, Yon Ajans.

Gorczynska M. (2011). Accounts receivable turnover ratio. The purpose of analysis in terms of credit policy management. In *8th International Scientific Conference on Financial Management of Firms and Financial Institutions, Ostrava, Czech Republic*.

Grifell-Tatjé E, Lovell CAK. (1999). Profits And Productivity. *Management Science*, 45 (9): 1177–1193.

Guerard JB. (2005). *Corporate Financial Policy And R&D Management*, Canada, John Wiley & Sons Inc.

Gujarati DN. (2004). Basic econometrics, 4th ed. India, Tata McGraw-Hill Companies.

Guleryuz O. (2011). Kuresel gelismeler isiginda Turkiye'de tekstil sektoru ve gelecegi, Sosyal Bilimler Enstitusu, Isletme Anabilim Dali, Yuksek Lisans Tezi, Isparta: Suleyman Demirel Universitesi, 6-7.

Guvemli, O. 1973. *Sanayi Isletmelerinde Isletme Sermayesi Analizi*, Istanbul, T.C Muhasebe Uzmanları Dernegi Yayinlari.

Haghshenas L, Abedi A. (2013). Review consumer behaviour and factors affecting on purchasing decisions. *Singaporean Journal of Business, Economics and Management Studies*. 1(10), 17–24. doi:10.12816/0003798.

Hall T, Mateus C, Mateus, IB. (2014). What determines cash holdings at privately held and publicly traded firms? Evidence from 20 emerging markets. *International Review of Financial Analysis*, 33: 104-116.

Hampton JJ, Wagner CL. (1989) *Working Capital Management*, New York, John Wiley & Sons.

Headd B, Kirchhoff B. (2009). The growth, decline and survival of small businesses: An exploratory study of life cycles. *Journal of Small Business Management*, 47(4): 531-550.

Hervé C, Mullet E. (2009). Age and factors influencing consumer behaviour. *International journal of consumer studies*, *33*(3): 302-308.

Higgins, RC. (2012) *Analysis For Financial Management*, 10th ed. Singapore, Mcgraw-Hill.

Hill C, Jones G. (2013) *Strategic Management: An Integrated Approach*, 10*th* ed. USA: South-Western Cengage Learning.

Hill MD, Kelly GW, Highfield MJ. (2010). Net operating working capital behavior: A first look". *Financial Management*, 39(2): 783-805.

Hill, RA. Strategic Financial Management. https://bookboon.com/zh/strategic-financial-management-ebook. 25 May 2022.

Hill, RA. Working Capital Management Theory & Strategy. https://bookboon.com/en/working-capital-management-ebook. 25 May 2022.

Himmelberg CP, Hubbard RG, Palia D. (1999). Understanding the determinants of managerial ownership and the link between ownership and performance. *Journal of Financial Economics*, 53(3): 353-384.

Hingurala Arachchi A, Perera W, Vijayakumaran R. (2017). The impact of working capital management on firm value: Evidence from a frontier market. A*sian Journal of Finance & Accounting*, 9(2): 399-413.

Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *The Stata Journal*, 7(3): 281-312.

Huang, A. G., & Wirjanto, T. S. (2012). Is China's P/E ratio too low? Examining the role of earnings volatility. *Pacific-Basin Finance Journal*, 20(1) :41-61.

Huang, R, Liu G. (2009). Study on the enterprise sustainable growth rate and leverage mechanism. *International Journal of Business and Management*, 4 (3): 200-212.

Hussain S, Nguyen VC, Nguyen QM, Nguyen HT, Nguyen TT. (2021). Macroeconomic factors, working capital management, and firm performance-A static and dynamic panel analysis. *Humanities and Social Sciences Communications*, 8(1): 1-14.

Hutchison PD, Farris MT, Anders SB. (2007). Cash-to-cash analysis and management. The *CPA journal*, *77*(8), 42-47.

Hutomo AT, Nurmanit F, Leon FM. (2022). Working capital management and company's performance analysis at the consumer goods industry in Indonesia. *International Journal of Latest Research in Humanities and Social Science*, 5(1): 104-112.

Ibrahim M, Dengel BY. (2021). Cash conversion cycle and value of listed oil and gas companies in Nigeria. *Review of Market Integration*, 13(1): 20-41.

Inceler, KH. (1996). Textile Sector in Indonesia. *Journal of Economic Cooperation Anıong Islamic Countries*, 17(3-4): 129-163.

India Brand Equity Foundation (IBEF). Textile Industry & Market Growth in India, https://www.ibef.org/industry/textiles. 25 May 2022.

Iqbal A, Khan MI, Khan J. (2022). Investors Perception About Cash Conversion Cycle When Valuing Firm (A study of textile sector of Pakistan stock exchange). *KASBIT Business Journal*, 15(1): 22-34

Ishaque M. (2019). Indonesian Textile Industry, https://www.linkedin.com/pulse/indonesian-textile-industry-mohammad-ishaque 22 May 2022.

Istanbul Tekstil ve Konfeksiyon Ihracatci Birlikleri (ITKIP). Tekstil Pazari Olarak Brezilya. https://www.itkib.org.tr/Home/KbDownload/brezilya-ulke-raporu-agustos-2011. 25 May 2022.

Ittelson TR. (2009) *Financial Statements, Revised and Expanded Edition: A Step-By-Step Guide To Understanding And Creating Financial Reports*, USA, The Career Press.

Itzkowitz J. (2013). Customers and cash: How relationships affect suppliers' cash holdings. *Journal of Corporate Finance*, 19: 159-180.

Iversen A, Asche F, Hermansen Ø, Nystøyl R. (2020). Production cost and competitiveness in major salmon farming countries 2003–2018. *Aquaculture*, 522: 1-11. https://doi.org/10.1016/j.aquaculture.2020.735089.

Izadinia, N., & Taki, A. (2010). Investigating the effect of working capital management on profitability of the companies listed in Tehran stock exchange. *Financial Accounting*, 2(5): 120-139.

Jain NK. (2004). *Working Capital Management*, New Delhi, APH Publishing Corporation.

Jakpar S, Tinggi M, Siang TK, Johari A, Myint KT, Sadique M. (2017). Working capital management and profitability: Evidence from manufacturing sector in Malaysia. *Journal of Business & Financial Affairs*, 6(2): 1-9.

Jaworski J, Czerwonka L. (2022). Profitability and working capital management: Evidence from the Warsaw Stock Exchange. *Journal of Business Economics and Management*, 23(1): 180-198.

Jensen M. (1993). The modern ındustrial revolution, exit and the failure of internal control systems. *The Journal of Finance*, 48(3): 831–880, https://doi.org/10.1111/j.15406261.1993.tb04022.x

Jose ML, Lancaster C, Stevens JL. (1996). Corporate returns and cash conversion cycles. *Journal of Economics and Finance*, 20(1): 33-46. https://doi.org/10.1007/BF02920497

Kagermann H, Wahlster W, Helbig J. (2013). Securing the future of German manufacturing industry. *Recommendations for Implementing the Strategic Initiative Industrie*, 4(199): 1-82.

Kahveci M, Bas F. (2015). In production enterprise products (product) of the development R&D department technical stages and usage of information technologies. *Muhasebe ve Denetime Bakis (Accounting & Auditing Review) 15*(45): 75-88. Retrieved from https://dergipark.org.tr/tr/pub/mdbakis/issue/63899/967264

Kanoglu N, Ongut CE. (2003). *Dunya ve Turkiye'de Tekstil-Hazir Giyim Sektorleri ve Turkiye'nin Rekabet Gucu*, Ankara, Devlet Planlama Teskilati Yayinlari.

Kaplan S, Tripsas M. (2008). Thinking about technology: Applying a cognitive lens to technical change. *Research Policy*, ***37***(5): 790-805.

Kaplinsky R. (2004). Spreading the gains from globalization: What can be learned from value-chain analysis?. *Problems of Economic Transition*, 47(2): 74-115.

Karapinar A. (2002). Isletme performansinin olculmesinde katma deger ve bir ornek uygulama. *Muhasebe Bilim Dunyasi Dergisi*, 4(2): 59-74.

Kayani UN, De Silva T-A, Gan C. (2019). Working capital management and corporate governance: A new pathway for assessing firm performance. *Applied Economics Letters*, 26(11): 938-942.

Keane J, Te Velde DW. (2008). *The Role of Textile and Clothing Industries in Growing and Development Strategies*, Final Draft, UK, Overseas Development Institute,1-71.

Kennedy P. (2003). *A Guide to Econometrics*, 5th ed. Cambridge, MIT Press.

Kennedy RD, Mcmullen SY. (1962) *Finacial Statements Form, Analysis and Interpretation*, 4th ed. USA, Richard D. Irwin Inc.

Keown AJ, Martin JD, Petty JW. (2014). *Foundations of Finance: The Logic and Practice of Financial Management,* 8th ed. New Jersey, Pearson.

Keskin R, Gokalp F. (2016). Calisma sermaye yonetiminin firma karliligi uzerine etkisi: Panel veri analizi. *Dogus Universitesi Dergisi*, 17(1): 15-25.

Keynes, JM. (1964). *The General Theory of Employment, Interest and Money*, 1st Harbinger ed. New York and London, Harcourt Brace Jovanovich.

Khan MI, Akash RSI, Hamid K, Hussain F. (2011). Working capital management and risk-return trade off hypothesis: Empirical evidence from textile sector of Pakistan. *European Journal of Economics, Finance and Administrative Sciences*, *40*(3): 146-152.

Khurana K. (2022). The Indian fashion and textile sector in and post COVID-19 times. *Fashion and Textiles*, *9*(1): 1-16.

Kiraci M. (2009). Stok yonetimi ve karlilik iliskisinin finansal oranlar araciligiyla incelenmesi: IMKB imalat sektorunde bir arastirma. *ODTU Gelisme Dergisi*, 36: 161-195.

Ko D, Seo Y, Jung SU. (2015). Examining the effect of cultural congruence, processing fluency, and uncertainty avoidance in online purchase decisions in the US and Korea. *Marketing Letters*, *26*(3): 377-390.

Kontuš, E. (2013). Management of accounts receivable in a company. *Ekonomska misao i praksa*, (1): 21-38.

Laghari F, Chengang Y. (2019). Investment in working capital and financial constraints: Empirical evidence on corporate performance. *International Journal of Managerial Finance*, 15(2): 164-190.

Lazaridis I, Tryfonidis D. (2006). Relationship between working capital management and profitability of listed companies in the Athens stock exchange. *Journal of financial management and analysis*, 19(1): 26-35

Lee CC, Yang J. (2000). Knowledge value chain. *Journal of Management Development*, 19 (9): 783-793. https://doi.org/10.1108/02621710010378228

Lin Q, Wang Y. (2021). Working capital management, the market environment and corporate performance: Evidence from China. *Applied Economics*, 53(39): 4505-4516.

Lind L, Pirttilä M, Viskari S, Schupp F, Kärri T. (2012). Working capital management in the automotive industry: Financial value chain analysis. Journal of purchasing and supply management, 18(2): 92-100.

Lorenzo AP, Virginia SA. (2010). *Working Capital Management*, Virginia, Oxford University Press.

Lucato WC, Costa EM, de Oliveira Neto GC. (2017). The environmental performance of SMEs in the Brazilian textile industry and the relationship with their financial performance. *Journal of Environmental Management*, 203: 550-556.

Maciková L, Smorada M, Dorˇcák P, Beug B, Markoviˇc P. (2018). Financial aspects of sustainability: An evidence from Slovak companies. *Sustainability*, 10: 2274.

Mansoori DE, Muhammad D. (2012). The effect of working capital management on firm’s profitability: Evidence from Singapore. *Interdisciplinary Journal of Contemporary Research in Business*, 4(5): 472-486

Marangu K, Jagongo A. (2014). Price to book value ratio and financial statement variables (An empirical study of companies outed at Nairobi securities exchange, Kenya). *Global Journal Of Commerce & Management Perspective*, 3(6): 50-56.

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

Mathur SB, Rangarajan C. (2015) *Financial Management: Theory and Practice,* 1st ed. India, Trinity Press.

Mathuva D. (2010). The Influence of working capital management components on corporate profitability. *Research Journal of Business Management*, 4(1): 1-11.

McKinsey Company. (2021). The State of Fashion Report, https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/state%20of%20fashion/2021/the-state-of-fashion-2021-vf.pdf 25 May 2022.

McKinsey Company. (2022). The State of Fashion Report, https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/state%20of%20fashion/2022/the-state-of-fashion-2022.pdf 25 May 2022.

Megginson W, Smart S. (2008). *Introduction to Corporate Finance*, Nelson Education.

Mercado EC. (2007). *Hands-on Inventory Management*, 1st ed. New York, Auerbach Publications.

Meszek W, Polewski M. (2006). Certain aspects of working capital in a construction company. Technological And Economic Development Of Economy, 12(3): 222-226.

Mohamad NEA. (2018). Does working capital relevant in enhancing the Malaysia's Government Linked Company (GLC) value?. *Global Business and Management Resear*ch, 10(3): 418-428.

Mongrut S, OShee DF, Zavaleta CC, Zavaleta CJ. (2014). Determinants of working capital management in Latin American companies. *Innovar*, 24(51): 5-18. http://hdl.handle.net/11285/635411

Moss JD, Stine B. (1993). Cash conversion cycle and firm size: A study of retail firms. *Managerial Finance*, 19(8): 25-34.

Mukherjee T, Sen SS. (2019). Impact of corporate governance on corporate sustainable growth. International Research Journal of Business Studies, 12(2): 167- 84.

Muller JM, Buliga O, Voigt KI. (2018). Fortune favors the prepared: How SMEs approach business model innovations in Industry 4.0. *Technological Forecasting and Social Change*, 132: 2-17.

Mun SG, Jang SS. (2015). Working capital, cash holding, and profitability of restaurant firms. *International Journal of Hospitality Management*, 48: 1-11.

Muscettola M. (2014). Cash conversion cycle and firm's profitability: An empirical analysis on a sample of manufacturing SMEs of Italy. *International Journal of Business and Management*, 9(5): 25-35. Doi:10.5539/ijbm.v9n5p25

Nadeem M, Waris M, Asadullah M, Kamran M. (2020). Impact of working capital policies on firm's performance, evidence from Pakistan. *Journal of International Business and Management*, 3(1): 01-20.

Napompech K. (2012). Effects of working capital management on the profitability of Thai listed firms. *International Journal of Trade, Economics and Finance*, 3(3): 227-232.

Naser K, Nuseibeh R, Al-Hadeya A. (2013). Factors influencing corporate working capital management: Evidence from an emerging economy. *Journal of Contemporary Issues in Business Research*, 2(1): 11-30.

Nastiti PKY, Atahau ADR, Supramono S. (2019). Working capital management and its influence on profitability and sustainable growth. *Business: Theory and Practice*, 20: 61-68.

Nazir MS, Afza T. (2009). Impact of aggressive working capital management policy on firms' profitability. *IUP Journal of Applied Finance*, 15(8): 19-30

Nguyen AH, Pham HT, Nguyen HT. (2020). Impact of working capital management on firm’s profitability: Empirical evidence from Vietnam. *The Journal of Asian Finance, Economics and Business,* 7(3):115-125.

Niresh A, Thirunavukkarasu V. (2014). Firm size and profitability: A study of listed manufacturing firms in Sri Lanka. *International journal of business and management*, 9(4): 57-64.

Niresh JA. (2012). Trade-off between liquidity & profitability: A study of selected manufacturing firms in Sri Lanka. *Researchers world*, 3(4): 34-40.

Nishanthini, A, Nimalathasan B. (2013). Determinants of profitability: A case study of listed manufacturing companies in Sri Lanka. *Merit Research Journal Of Art, Social Science And Humanities,* 1(1): 42-50.

Nobanee H, Abdullatif M, AlHajjar M. (2011). Cash conversion cycle and firm’s performance of Japanese firms. *Asian Review of Accounting*, 19:147-156 Doi:10.1108/13217341111181078.

Nugraha NM, Ramadhanti AA, Amaliawiati L. (2021). Inflation, leverage, and company size and their effect on profitability. *Journal of Applied Accounting and Taxation*, 6(1): 63-70.

Obeng H, Enos BK, Yensu J. (2021). Working capital management, working capital policy, and firm performance in Ghana: Empirical evidence using a dynamic system GMM. *African Journal of Business & Economic Research*, 16(1): 249-271.

Ogundipe SE, Idowu A, Ogundipe LO. (2012). Working capital management, firms’ performance and market valuation in Nigeria. *World Academy of Science, Engineering and Technology,* 61(1): 1196-1200.

Okka O. (2006) *Finansal Yonetime Giris*, Ankara, Nobel Yayinevi.

Olgun BA, Turan FK. (2022). Tekstil sektorunde dijital donusum ve tekstil firmalarinin endustri 4.0 kavramsal farkindalik duzeyini belirlemeye yonelik bir calisma. *Tekstil ve Muhendis*, 29(125): 28-40.

Omag A. (2020). Du-Pont analizi ve ornek bir uygulama. *Finans Ekonomi ve Sosyal Arastirmalar Dergisi,* 6(1): 51-57

Onal YB. (1996). Nakit yonetiminin onemi ve isleyisi: Turkiye ornegi. *Cukurova Universitesi Sosyal Bilimler Enstitusu Dergi*si, 4(4): 93-104.

Ongut, CE. (2007). Turk tekstil ve hazir giyim sanayiinin degisen dunya rekabet sartlarina uyumu. (Expertise Thesis), Ankara, Iktisadi Sektorler ve Koordinasyon Genel Mudurlugu DPT.

Opler T, Pinkowitz L, Stulz R, Williamson R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics,* 52 (3): 6.

Osama EA, Al-Gazzar H. (2021). Working capital and financial performance in MENA region. *Journal of Humanities and Applied Social Sciences*, 3(4): 257-280.

Othuon DO, Gatimbu KK, Musafiri CM, Ngetich FK. (2021). Working capital management impacts on small-scale coffee wet mills' financial performance in eastern Kenya. Heliyon, 7(9):1-9. https://doi.org/10.1016/j.heliyon.2021.e07887

Ozdemir M. (2016). *Finansal Yonetim*, 3. Baski, Istanbul, Turkmen Kitabevi.

Ozturk A. (2017). *Pazarlama Ilkeleri*, Gozden gecirilmis 3. Baski. Ankara, Gazi Kitabevi.

Ozturk MB. (2004). Finansal performansin olculmesinde alternatif bir yontem "ekonomik katma deger'. *Ataturk Universitesi I.I.B.F. Dergisi*, 18(3-4): 351-368.

Pais MA, Gama PM. (2015). Working capital management and SMEs profitability: Portuguese evidence. *International Journal of Managerial Finance*, 11(3): 341-358. https://doi.org/10.1108/IJMF-11-2014-0170

Panda AK, Nanda S. (2018). Working capital financing and corporate profitability of Indian manufacturing firms. *Management Decision*, 56(2): 441-457. https://doi.org/10.1108/MD-07-2017-0698

Pandey IM, Parera KLW. (1997). Determinants of effective working capital management - A discriminant analysis approach. Indian Institute of Management Ahmedabad, India, IIMA Working Paper-1349, 211.

Pandey, IM. (2015). *Financial Management*, 11th ed. New Delhi, Vikas Publishing House.

Panigrahi AK. (2014) Understanding the working capital financing strategy (A case study of Lupin limited). *Journal of Management Research and Analysis*,1(1):108-120

Paramasivan C, Subramanian T. (2009). *Financial Management*, Indian, New Age International Publisher.

Pass, CL, Pike RH. (1984). An overview of working capital management and corporate financing, *Managerial Finance*, 10(3):1-12.

Peker A. (1979). *Yonetim Muhasebesi*, 2.Baski, Istanbul, Formul Matbaasi.

Pekuri A, Haapasalo H, Herrala, M. (2011). Productivity and performance management-managerial practices in the construction industry *International Journal of Performance Measurement*, 1(1): 39-58.

Perera W, Priyashantha P. (2018). The impact of working capital management on shareholders wealth and profitability: Evidence from Colombo stock exchange. *Investment Management and Financial Innovations*, 15(2): 104-115.

Pinches G. (1996). *Essentials of Financial Management*, Harper Collins College Publishers, University Of Kansas.

Porter ME, Nabi J, Lee TH. (2021). Value Chain Management to Implement Post–Covid-19 Health Care Strategy. *NEJM Catalyst Innovations in Care Delivery*, 2(5).1-7

Porter ME. (1980). *Competitive Strategy*, New York, The Free Press, Aktaran: Ongut, C. Emrah, (2007).

Porter ME. (1985) Competitive Advantage: Creating and Sustaining Superior Performance, 1st ed. New York, The Free Press.

Poyraz E. (2012). The effect of working capital financing strategies on profitability ratios (Akbank Application). Journal of Dokuz Eylul University Faculty Of Economics And Administrative Sciences, 27(1): 47-56.

Prempeh KB, Peprah-Amankona G. (2020). Does Working Capital Management Affect Profitability of Ghanaian Manufacturing Firms? *Zagreb International Review of Economics & Business*, 23(1): 1-18.

Quintiliani A. (2017). The relationship between the market value added of SMEs listed on AIM Italia and internal measures of value creation. The role of corporate strategic planning. *International Journal of Financial Research*, *9*(1): 121-131.

Radasanu AC. (2016). Inventory management, service level and safety stock. *Journal of Public Administration, Finance and Law*, 9(9): 145-153.

Rafuse ME. (1996). Working capital management: An urgent need to refocus. *Management Decision*, 34(2): 59-63.

Rahim N. (2017). Sustainable growth rate and firm performance: A case study in Malaysia. *International Journal of Management, Innovation & Entrepreneurial Research*, *3*(2): 48-60.

Rehn E. (2012). Effect Of Working Capital Management On Company Profitability An Industrywise Study Of Finnish and Swedish. Unpublished Master Thesis, Department of Accounting Hensen School of Economics.

Rey-Ares L, Fernández-López S, Rodeiro-Pazos D. (2021). Impact of working capital management on profitability for Spanish fish canning companies. *Marine Policy*, *130*: 1-10 https://doi.org/10.1016/j.marpol.2021.104583

Richards VD, Laughlin EJ. (1980). A cash conversion cycle approach to liquidity analysis. *Financial Management*, 9(1): 32-38.

Rink, DR, Swan JE. (1979). Product life cycle research: A literature review. *Journal of business Research*, 7(3): 219-242.

Rogers D, Leuschner R, Choi T. (2020). *Supply Chain Financing: Funding the Supply Chain and the Organization*, London, World Scientific Publishing.

Roghanian P, Rasli A, Gheysari H. (2012). Productivity through effectiveness and efficiency in the banking ındustry. *Procedia-Social And Behavioral Sciences*, 40: 550-556. https://doi.org/10.1016/j

Ross SA, Westerfield R, Jordan BD. (2003). *Fundamentals of Corporate Finance*, 6th ed. New York, Tata Mcgraw-Hill Education.

Roswinna W, Febrian F, Agustina G, Yulianti ML, Lasminingrat A. (2020). The effect of non performing loans to cash ratio on bank BPR Kertaraharja. *Dinasti International Journal of Education Management And Social Science*, *1*(3): 412-418.

Saglam M, Karaca SS. (2015). Calisma sermayesi unsurlarının firma karliligina etkisi: Borsa Istanbul sirketleri uzerine bir uygulama. *Sosyal Bilimler Arastirmalari Dergisi*, 10(1): 119-132.

Sagner J. (2011) *Essentials of Working Capital Management (Essentials Series*), Canada, John Wiley & Sons, Inc.

Sagner J. (2014) *Working Capital Management: Applications And Case Studies*, John Wiley & Sons.

Saha K, Dey PK, Papagiannaki E. (2021). Implementing circular economy in the textile and clothing industry. *Business Strategy and the Environment*, *30*(4): 1497-1530.

Sahin A, Ergun B. (2018). Finansal surdurulebilir buyume orani ve finansal oranlar: Borsa Istanbul imalat sanayi uzerinde bir arastirma. *Journal of Business Research-Turk*, 10(1):173.

Sahin O. (2011). IMKB'ye kayitli imalat sirketlerinde calisma sermayesi politikalari ve firma performansi iliskileri. *Eskisehir Osmangazi Universitesi IIBF Dergisi*, 6(2):123-141.

Samiloglu F, Demirgunes K. (2008). The Effect of working capital management on firm profitability: Evidence from Turkey. *The International Journal of Applied Economics And Finance*, 2: 44-50. https://scialert.net/abstract/?doi=ijaef.2008.44.50.

Samiloglu F, Akgun AI. (2016). The relationship between working capital management and profitability: Evidence from Turkey. *Business and Economics Research Journal*, 7(2): 1-14

Samiloglu F. (2005). Piyasa katma degeri ve hisse getirileri: IMKB'deki imalat sanayi sirketlerinde ampirik bir uygulama. *Muhasebe ve Finansman Dergis*i, 25: 79-88.

Sariaslan H, Erol C. (2008) *Finansal Yonetim*, 1. Baski. Ankara, Siyasal Kitabevi.

Sayilgan G. (2017) *Isletme Finansmani*, 7. Baski. Ankara, Siyasal Kitapevi.

Semiz, Y, Toplu, G. (2019). Cumhuriyet doneminde devlet tarafindan kurulan ilk sanayi kurulusu Kayseri Sumerbank bez fabrikasi. *Selcuk Universitesi Turkiyat Arastirmalari Dergisi*, (45), 29-59.

Sensini L. (2020). Working capital management and performance: Evidence from Italian SME's. *International Journal of Business Management and Economic Research* (*IJBMER*), 11(2):1749-1755.

Shareef MA, Kumar U, Kumar V. (2008). Role of different electronic-commerce (EC) quality factors on purchase decision: A developing country perspective. *Journal of Electronic Commerce Research*, *9*(2): 92-113.

Sharma AK, Kumar S. (2011). Effect of working capital management on firm profitability: Empirical evidence from India. *Global Business Review*, 12(1): 159-173.

Sheikh NA, Rafique A, Abbasi MN. (2016). Impact of working capital on performance of textile firms listed on PSX. *Pakistan Journal of Social Sciences (PJSS)*, *36*(1):409-419

Shin HH, Soenen L. (1998). Efficiency of working capital management and corporate profitability. *Financial Practice And Education*, 8(2): 37-45.

Shirvanimoghaddam K, Motamed B, Ramakrishna S, Naebe M. (2020). Death by waste: Fashion and textile circular economy case. *Science of the Total Environment*, 718, 137317. https://doi.org/10.1016/j.scitotenv.2020.137317

Silk, A. J. (2006). *What is marketing?*. Boston, Harvard Business Press.

Sim SL. (2021). How do working capital management influence firms' performance in the construction sector?. *South East Asia Journal of Contemporary Business, Economics and Law*, 25(2): 18-29.

Singh M. (2021). Working capital management and financial performance: Evidence from non-financial firms listed in Nepal stock exchange limited. *Delhi Business Review*, 22(2): 21-30.

Singh SP, Aggarwal B, Jhamb N. (2017). Factors affecting customer satisfaction in textile industry: A study of Vardhman group. Biz and Bytes, 8(1): 158-187.

Singhania M, Mehta P. (2017). Working capital management and firms' profitability: evidence from emerging Asian countries. *South Asian Journal of Business Studies*, 6(1): 80-97.

Slabá M. (2019). The impact of the age on the customers buying behaviour and attitude to price. *Littera Scripta*, 12(2): 146-193

Slater SF, Hult GTM, Olson EM. (2007). On the importance of matching strategic behavior and target market selection to business strategy in high-tech markets. *Journal of the Academy of Marketing Science*, 35(1): 5-17.

Smith KV. (1973). State of the art of working capital management, *Financial Management*, 2(3): 50-55.

Staff E. (2013). How to Determine Your Working Capital Needs. http://www.entrepreneur.com/article/225658. 25 May 2022.

Stewart G. (1995). Supply chain performance benchmarking study reveals keys to supply chain excellence. *Logistics Information Management*, 8(2): 38-44.

Stowell DP. (2012) *Investment Banks, Hedge Funds, And Private Equity*, 2th ed. USA, Academic Press.

T.C. Bilim, Sanayi ve Teknoloji Bakanligi. Tekstil Sektoru Analiz Raporu ve Klavuzu. https://www.kalkinmakutuphanesi.gov.tr/assets/upload/dosyalar/tekstil-tr32-.pdf. 25 May 2022.

T.C. Cevre, Sehircilik ve Iklim Degisikligi Bakanligi. (2016). Tekstil Uretimi, Sektorel Uygulama Klavuzu. https://webdosya.csb.gov.tr/db/sanayihavarehberi/icerikler/25_tekst-l-uret-m--o20200103075115.pdf 25 May 2022.

T.C. Ekonomi Bakanligi. (2016). Hazir Giyim Sektoru. Ankara: Ihracat Genel Mudurlugu, http://www.uis.gov.tr/media/1203/uis_izleme_degerlendirme_raporu215-233.pdf 25 May 2022.

T.C. Kalkinma Bakanligi, (2014) Onuncu Kalkinma Plani Tekstil Deri Hazir Giyim Calisma grubu Raporu, https://www.sbb.gov.tr/wp-content/uploads/2018/10/10_TekstilDeriHazirGiyim.pdf 25 May 2022.

T.C. Ticaret Bakanligi, (2022) Hindistan Pazar Bilgileri, p.13. https://ticaret.gov.tr/data/5f8d738f13b8763b2051494d/Hindistan%20Pazar%20Bilgileri-2022.pdf 25 May 2022.

T.C. Sanayi ve Teknoloji Bakanligi Tekstil, Hazirgiyim ve Deri Urunleri Sektorleri Raporu (2021). https://www.sanayi.gov.tr/plan-program-raporlar-ve-yayinlar/sektor-raporlari/mu2812011411 25 May 2022

T.C. Yeni Delhi Buyukelciligi Ticaret Musavirligi. Hindistan Tekstil ve Hazir Giyim Sektoru Ulke Notu. https://www.itkib.org.tr/Home/KbDownload/hindistan-hazirgiyim-ve-tekstil-ulke-raporu. 25 May 2022.

Tahir M, Anuar MBA. (2016). The determinants of working capital management and firms performance of textile sector in Pakistan. *Quality & Quantity*, *50*(2): 605-618.

Tekin M. (1996). *Uretim Yonetimi*, Konya, Ari Ofset Matbaacilik.

Textile Today. A brief history of Brazilian textile industry. https://www.textiletoday.com.bd/brief-history-brazilian-textile-industry/. 25 May 2022.

The Brazilian Textile and Apparel Industry Association ABIT, (June 2017). http://www.abit.org.br/cont/perfil-do-setor 25 May 2022.

The Brazilian Textile and Apparel Industry Association (ABIT). Brazilian Trade Balance. 2004-2020. https://www.abit.org.br/uploads/arquivos/N1_%20Balan%C3%A7a%20em%20ing%C3%AAs.pdf. 25 May 2022.

The European Apparel and Textile Confederation (EURATEX), (2020a). The European Apparel and Textile Confederation. https://euratex.eu/wp-content/uploads/EURATEX-Facts-Key-Figures-2020-LQ.pdf 25 May 2022.

The European Apparel and Textile Confederation (EURATEX), (2020b). The European Apparel and Textile Confederation. https://euratex.eu/sustainable-businesses/circular-economy/ 25 May 2022.

The World Bank (1994). Managing Restrıcturing in the Textile and Garment Subsector: Examples from Asia, Edited by Saha Dhevan Meyanathan, EDI Seminar Series, Washington D.C., The World Bank.

The Worl Bank (2022). http://data.worldbank.org. 01 July 2022.

Timur E, Korkmaz T. (2021) The effect of working capital financing strategies on firm profitability: An application on Borsa Istanbul manufacturing firms'. *Business and Economics Research Journal*, 12(3): 629-652

TUBITAK (2003) 'Vizyon 2023 Teknoloji Ongorusu Projesi, Tekstil Paneli Son Raporu'.

Tufail S, Khan J. (2013). Impact of working capital management on profitability of textile sector of Pakistan. *Isletme Arastirmaları Dergisi*, *5*(2), 32-56.

Turan S, Bilgin R. (2021). Turkiye'deki halka acik firmalarin net isletme sermayesi yonetiminin firma degerine etkisi. *Yonetim Bilimleri Dergisi*, 19(40): 437-458.

Turko M. (1978). *Doner Sermaye Yonetimi, Prensipler ve Analiz*, Erzurum, Ataturk Universitesi Isletme Fakultesi Yayinlari.

Turko M. (2002). *Finansal Yonetim*, Istanbul, Alfa Yayinlari.

Ukaegbu B. (2014). The significance of working capital management in determining firm profitability: Evidence from developing economies in Africa. *Research in International Business and Finance*, 31: 1-16.

Usta, O. (2003). *Isletme Finansi ve Finansal Yonetim*, Izmir, Anadolu Matbaacilik.

Uyanik S, Ogulata RT. (2013). Turk tekstil ve hazir giyim sanayiinin mevcut durumu ve gelisimi. *Tekstil ve Mühendis*, 20(92): 58-78.

Uysal Y. (1998). *Turkiye ve Ege Bolgesi Tekstil ve Konfeksiyon Sektoru*, Izmir, Ege Hazir Giyim ve Konfeksiyon Ihracatcilari Birligi Baskisi.

Ugur A. (2004). Turkiye'nin dis ticaretinde tekstil-giyim sektorunun yeri ve yeni rekabet donemi. *Cografi Bilimler Dergisi*, 2(2): 26-49.

Vahid TK, Elham G, Khosroshahi Mohsen A, Mohammadreza E. (2012). Working capital management and corporate performance: Evidence from Iranian companies. *Procedia-Social and Behavioral Sciences*, 62: 1313-1318.

Van Horne JC, Wachowicz JM. (2008) *Fundamental of Financial Management*, 13th Edition, New York, Prentice Hall Publishers.

Vasiu DE, Ilie L. (2018). Sustainable growth rate: An analysis regarding the most traded companies on the Bucharest Stock Exchange. In *Emerging Issues in the Global Economy*, Springer, Cham.

Venanzi D. (2012) F*inancial Performance Measures and Value Creation: The State of the Arts*, 1st ed. New York, Springer.

Vernimmen, P, Dallocchio M, Le Fur Y, and Salvi A. (2005*), Corporate Finance: Theory and Practice*. United Kingdom, John Wiley & Sons, Inc.

Vieria RS. (2010). The Relationship Between Liquidity And Profitability: Case Study An Exploratory Study of Airline Companies 2005-2008', Master's Thesis, Sweden: UMEA University.

Vishwanath SR. (2007) *Corporate Finance-Theory And Practice*, London, Response Books.

Walters, D, Laffy D. (1996). *Managing Retail Productivity And Profitability*, 1st ed. London, Macmillan Business.

Watson D, Head A. (2007) *Corporate Finance Principles & Practice*, 4th. ed. London, Pearson Education Limited.

Weinraub HJ, Visscher S. (1998). Industry practice relating to aggressive conservative working capital policies. *Journal of Financial And Strategic Decisions*, 11(2): 11-18.

Wernerfelt B, Montgomery CA. (1988). Tobin's *q* and the importance of focus in firm performance. *The American Economic Review*, 78 (19): 246-250.

Weston JF, Brigham FE. (1993). *Essentials of Managerial Finance*, 10th ed. USA, Harcourt & Brace College Publisher.

Whittington G. (1980). The profitability and size of United Kingdom companies, 1960-74. *The Journal of Industrial Economics*, 335-352.

Wild JJ, Shaw WK, Chiappetta B. (2014). *Fundamental Accounting Principles*, 22th ed. New York, McGraw-Hill.

Wilson, J. (2001). *Handbook of Textile Design: Principles, Processes and Practice*, 1st ed. Cambridge, Woodhead Publishing Ltd.

Wissler C. (1905). The Spearman correlation formula. *Science*, 22(558): 309-311.

Wundisch K. (1973). Centralized cash management systems for the multinational enterprise. *Management International Review*, 43-57.

Xin T, Sorin AT. (2019). Cash conversion cycle: which one and does it matter?. *International Journal of Accounting and Financial Reporting*, 9(4): 64-76. Doi:10.5296/ijafr.v9i4.15529

Yazdanfar D, Ohman P. (2014). The impact of cash conversion cycle on firm profitability: An empirical study based on Swedish data. *International Journal of Managerial Finance*, 10(4): 442-452.

Yucel T, Kurt G. (2002). Nakit donus suresi, nakit yonetimi ve karlilik: IMKB sirketleri uzerinde ampirik bir calisma. *IMKB Dergisi*, 6(22): 1-15.

Yukseler Z. (2017). Kirilgan besli. https://www.researchgate.net/publication/320930852_KIRILGAN_BESLI 22 May 2022

Yuregir OH, Nakiboglu G. (2007). Performans olcumu ve olcum sistemleri: genel bir bakis. *Cukurova Universitesi Sosyal Bilimler Enstitusu Dergisi*, 16(2): 545-562

Zariyawati MA, Annuar MN, Taufiq H, Rahim AA. (2009). Working capital management and corporate performance: Case of Malaysia. *Journal of Modern Accounting and Auditing*, 5(11): 47-54

Zhang W, Cao Q, Schniederjans MJ. (2004). Neural network earnings per share forecasting models: A comparative analysis of alternative methods. *Decision Sciences*, 35(2): 205-237.

Zubairi HJ. (2011). Impact of working capital management and capital structure on profitability of automobile firms in Pakistan. *Finance and Corporate Governance Conference.*