

**THE MODERATING ROLE OF CORPORATE
GOVERNANCE TOWARDS THE
RELATIONSHIP BETWEEN FINANCIAL
MANAGEMENT FACTORS AND WORKING
CAPITAL MANAGEMENT EFFICIENCY**

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by

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LIST OF ABBREVIATIONS

BI	Board Independence
BS	Board Size
CAPEX	Capital Expenditures
CCC	Cash Conversion Cycle
CEO	Chief Executive Officer
CG	Corporate Governance
COVID-19	Corona Virus Disease 2019
DF	Debt Financing
DUAL	CEO Duality
FCF	Free Cash Flow
FRT	Firm Risk-taking
FS	Firm Size
GCC	Gulf Cooperation Council
GCE	Global Crisis Events
GDP	Gross Domestic Product
ICP	Inventory Conversion Period
IT	Industry Type
MENA	Middle East and North Africa
MERS	Middle East Respiratory Syndrome
OECD	Organisation For Economic Cooperation and Development
OPEC+	Organisation of the Petroleum Exporting Countries and Other Producers Including Russia
PDP	Payables Deferral Period
R&D	Research and Development
RCP	Receivables Collection Period
ROA	Return on Assets

ROE	Return on Equity
SARS	Severe Acute Respiratory Syndrome
SG	Firm Sales Growth
SMEs	Small and Medium Enterprises
SPM	Stock Price Movement
UAE	United Arab Emirates
WC	Working Capital
WCM	Working Capital Management
WCME	Working Capital Management Efficiency
WHO	World Health Organisation

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**PERANAN PENYEDERHANA TADBIR URUS KORPORAT TERHADAP
HUBUNGAN DI ANTARA FAKTOR PENGURUSAN KEWANGAN DAN
KECEKAPAN PENGURUSAN MODAL KERJA**

ABSTRAK

Lanskap ekonomi negara-negara MENA dihimpit dengan ketidaktentuan, kerana dipacu oleh ketergantungan mereka ke atas ketidaktentuan pasaran minyak dan kemelut politik. Di sebalik kekayaan mereka, negara-negara ini bergelut dengan ketidakstabilan, terbukti melalui pengurusan modal kerja firma-firmanya yang tidak cekap. Permulaan pandemik COVID-19 tambah memberi cabaran, di mana ia mengganggu pasaran dan kebolehpercayaan tenaga kerja. Oleh itu, kajian ini mengkaji peranan perantara tadbir urus korporat ke atas perhubungan di antara faktor-faktor pengurusan kewangan dan kecekapan pengurusan modal kerja (WCME) merentas negara-negara MENA; iaitu Bahrain, Mesir, Jordan, Kuwait, Oman, Qatar, Arab Saudi dan Emiriah Arab Bersatu. Kajian ini bertujuan mengkaji impak kitaran pertukaran tunai atau *cash conversion cycle* (CCC); aliran tunai bebas; pembiayaan hutang; peristiwa-peristiwa krisis dunia; dan faktor-faktor tadbir urus korporat seperti saiz lembaga, kebebasan lembaga dan dualiti CEO ke atas WCME. Tambahan pula, ia bertujuan melihat bagaimana faktor-faktor tadbir urus memberi kesan kepada perhubungan ke atas WCME dan menilai efek endogen di antara WCME dan pengambilan risiko syarikat. Teori kos agensi; teori kitaran pertukaran tunai; dan teori pulangan-risiko membentuk latar-belakang kajian. Kajian menggunakan reka bentuk data panel kuantitatif untuk pemerhatian tahunan ke atas 2,077 syarikat dalam tahun-tahun 2016-2021. Model-model regresi OLS, FEM, dan REM telah digunakan dan melalui analisis data tahunan sekunder, dapatan memberi kefahaman-kefahaman yang

signifikan. Dapat diperhatikan bahawa aliran tunai bebas muncul sebagai pemacu utama WCME, memberi impak yang positif kepada kecekapan, sementara pembiayaan hutang memberi pengaruh yang negatif. Seterusnya, kajian mendedahkan dinamik bernuansa, dengan saiz lembaga menyederhana secara positif perhubungan di antara aliran tunai bebas dan WCME, dan memberi kesan negatif kepada perhubungan di antara pembiayaan hutang dan WCME. Walau bagaimanapun, impak perantara dualiti CEO bertentangan dengan impak saiz lembaga. Kesan-kesan aliran tunai bebas dan pembiayaan hutang ke atas WCME adalah lebih kuat untuk syarikat-syarikat yang saiz lembaganya besar dan CEO yang tidak bersifat dualiti. Seterusnya, satu perhubungan endogen yang signifikan dan negatif di antara WCME dan pengambilan risiko telah dikenal pasti, dan ini menunjukkan bahawa syarikat-syarikat tersebut cenderung menghindari risiko. Penemuan-penemuan ini memberi panduan yang bernilai kepada pengurus-pengurus kewangan di negara-negara MENA, dan ini juga membantu mengenal pasti penentu-penentu WCME dan penggunaan amalan-amalan yang cekap. Kajian ini menyumbang kepada literatur WCME di negara-negara MENA yang sedia ada, dan memfokus kepada peranan tadbir urus korporat yang terabai di WCME dan endogeniti di antara WCME dan pengambilan risiko oleh syarikat. Dengan pengurusan modal kerja yang cekap, pengukuhan tadbir urus korporat, dan pertimbangan ke atas dinamik pengambilan risiko, syarikat-syarikat dapat memperbaiki kestabilan kewangan, prestasi kewangan dan pertumbuhan mereka pada masa hadapan.

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ABSTRACT

The economic landscape of MENA countries is marked by volatility, driven by their reliance on the oil market and political uncertainties. Despite their wealth, these nations struggle with instability, particularly evident in the inefficient management of working capital by their firms. The onset of the COVID-19 pandemic further exacerbated these challenges, disrupting the market and workforce reliability. Thus, this study examines the moderating role of corporate governance on the relationship between the financial management factors and working capital management efficiency (WCME) across key MENA countries; namely, Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE. The study aims to investigate the impact of the cash conversion cycle (CCC); free cash flow; debt financing; global crisis events; and corporate governance factors of board size, board independence, and CEO duality on the WCME. Additionally, it aims to examine how corporate governance factors affect the relationships towards the WCME and evaluate the endogenous effect between the WCME and firm risk-taking. The agency cost theory; the cash conversion cycle theory; and the risk-return theory formed the background of the study. The study utilises quantitative panel data design for 3,077 firm-year observations over 2016-2021. The regression models of OLS, FEM, and REM were utilised and through analysis of secondary-annual data, the findings reveal significant insights. Notably, free cash flow emerges as a key driver of WCME, positively impacting efficiency, while debt financing exerts a negative influence. Moreover, the study uncovers

nuanced dynamics, with board size positively moderating the relationship between free cash flow and WCME, and negatively impacting the relationship between debt financing and WCME. However, the moderating impact of CEO duality is opposite to that of the board size. The free cash flow and the debt financing effects on the WCME are stronger for firms with large board size and CEO non-duality. Also, a significant negative endogenous relationship between WCME and firm risk-taking is identified, indicating that firms are risk-averse. These insights offer valuable guidance for financial managers in MENA countries, aiding in the identification of WCME determinants and the adoption of efficient practices. This study contributes to the extant literature of WCME in MENA countries and shedding the light on the neglected role of corporate governance in WCME and the endogeneity between the WCME and firm risk-taking. By efficiently managing working capital, strengthening corporate governance, and considering the risk-taking dynamics, firms can improve their financial stability, financial performance, and future growth.

CHAPTER 1

INTRODUCTION

1.1 Introduction

The Working Capital (WC) is the heart and nerve centre of an enterprise (Mahajan & Sidhu, 2019) and a crucial factor that affects the company's profitability, risk, and value for shareholders (Le, 2019; Masri & Abdulla, 2018). The WC is the excess of the firm's current assets over current liabilities (e.g., Mun & Jang, 2015). The working capital management (WCM) is a critical task as it determines the firm's liquidity position and financial health, where the role of managers is to manage cash, receivables, inventories, payables, risk, or any combination of these factors.

Working capital management efficiency (WCME) is a process by which firms plan and monitor their current assets and current liabilities to remove the risk of liquidity and refrain from overinvestment in these assets (Eljelly, 2004). Inefficient WCM leads to the financial distress, and therefore to a higher probability of bankruptcy or business failure (Ramiah et al., 2016). Inefficient WCM restrains the firm ability to take risky corporate decisions that may result in higher profits in the uncertain environment. Yet, the study in the area of WCME and risk-taking of firms is still limited.

Global crisis events such as the financial crisis of 2007-2008 influence the countries' economic activities at macro and micro levels (Erol et al., 2011). WCME is influenced by global crisis events like Ebola virus disease in 2014-2016, and COVID-19 (Corona Virus Disease of 2019) pandemic and oil crisis in 2020. According to KPMG (2020), with the repercussions that novel COVID-19 pandemic crisis is having

on the economies worldwide, the need for efficient cash management and WCM is now greater than ever, especially when the predictability of cash flows declines.

In the region of the Middle East and North Africa (MENA), the manufacturing and service companies in the non-financial sector have been inefficient in the way they manage their inventories and receivables, and take more time to pay their payables to manage the WC (Ernst & Young, 2018).

The WCME in the MENA region in 2020, measured as the number of CCC days, continued to be greatly stagnated. In the last five years, it has become more apparent that there was a decreasing trend in terms of the CCC days, which have risen by 5 days since 2016, corresponding to extra cash of round cumulative \$3.8 billion tied up in the activities of 390 firms. The WCME is a key measure of the competitiveness of businesses and today it is beginning to show the signs of deterioration. However, the COVID-19 pandemic has forced companies to revisit their cash collections and optimise the supply chain and inventory to optimise the capital efficiency and address the cost efficiencies (Farzadi et al., 2021).

In the MENA region, the practices of corporate governance are generally considered insufficiently developed with a view to attracting investors and contributing to the development of capital markets. Therefore, as the economies of MENA seek to promote growth and build thriving societies, good corporate governance is crucial (OECD, 2019a). The corporate governance has a key role to play to enhance the WCME (Fiador, 2016; Gill & Biger, 2013). The role played by factors such as the board size, the board independence, the CEO duality, and the audit committee in WCM cannot be neglected (Gill & Biger, 2013). Proper corporate

governance mechanism can assist in maintaining the optimal level of WC in a company (Jamalinesari & Soheili, 2015).

Strong corporate governance can improve the firm's value through the risk-taking channel (Koirala et al., 2020). Governance practices differ from one country to another, and also between companies and industries (Maher & Andersson, 2002).

WCM is crucial to ascertain the sustainability of the firms in order to continue growing to compete with others (Kasiran et al., 2016). WCME is a significant element for firms to manage in the times of weak economic conditions and worldwide uncertainties (Demir et al., 2019). Further, the economies in MENA countries depend heavily on the industrial and service sectors. Hence, the aim of the study is to investigate the determinants of firm WCME in the industrial and service sectors in MENA countries. Specifically, this study examines the relationship between factors such as Cash Conversion Cycle (CCC), free cash flow, debt financing, global crisis events, and corporate governance towards WCME. Moreover, the corporate governance could act as moderating factors towards WCME. Also, the study addresses the endogeneity issues, as to how the WCME and firm risk-taking affect each other.

The secondary data of the study have been collected from S&P global market intelligence database (S&P, 2021) and annual reports available on stock exchanges' website and companies' websites for 2016-2021. The study sample consists of 555 non-financial companies (service and industrial companies) in the following selected countries of MENA region: Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates (UAE), that represents 49.5% of 1,122 listed firms on stock exchanges in these countries.

1.2 Background of the Study

The MENA region is made up of 21 different countries that consist of: Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syrian Arab Republic, UAE, Yemen Republic, Algeria, Djibouti, Egypt, Libya, Malta, Morocco, and Tunisia (World Bank, 2018). The diverse MENA region is affected by political and economic changes; however, it has enormous opportunities and potential for a better growth. MENA region reaps the benefits of a unique geographical location, which enables the access to global markets; a youth and an increasing number of educated people as well as comparative advantages in different sectors such as tourism, renewable energy sources, and manufacturing. The economies of MENA are implementing reforms to enhance economic growth, diversification, development and integrity of private sector, governance structures, and employment (OECD, 2018b).

As it holds half of the known global gas and oil reserves, the MENA region is the core of the world energy architecture (Tagliapietra, 2019). The MENA region is at the heart of energy, having the world's biggest proven oil reserves which account for approximately 60% of the global oil reserves and holding 45% of the global natural gas resources (Aoun, 2009; Dudley, 2018; Faghih & Zail, 2018; Kerbache et al., 2017). In fact, MENA countries are characterised by a wide variety in their economies due to the strong reliance on export of only oil and oil related products for certain countries such as Kuwait, Saudi Arabia, and UAE, whereas others have an extremely diverse economy as in Egypt.

In the MENA region, the Gulf Cooperation Council (GCC), which was set up in 1981 as an economic and political union of six gulf countries, namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE, aimed to attain unity among its

countries of similar political and cultural identities for improving the integration of economies and the harmonisation of politics. According to Mirzoev et al. (2020), the governments of the GCC countries produce more than a fifth of the global oil supply and these governments, whose net financial wealth is \$2 trillion, launched plans to diversify economies and reduce their reliance on gas and oil.

As acknowledged by Saidi and Prasad (2018), the countries in MENA region have undertaken investment reforms to provide investors with a more accessible and stable environment. Recently, to achieve reforms, the GCC countries updated company laws and investments, allowed foreign investors to enter capital markets, and opened up major industries for foreign direct investment. Historically, the GCC countries have been supportive of MENA economies with aids for economic and humanitarian needs, which has been recently evidenced by Jordan and Egypt.

The GCC is one of Jordan's main trading partners. Jordan has improved its foreign trade further on than many competing nations despite of its modest natural resources, and has the most open economy among the Arab countries with free trade agreements more than any of its neighbouring. Jordan would be able to receive larger flow of investment through close relations with the GCC. However, there has been a tremendous increase in trade among Jordan and the GCC over the last decade. The bilateral trade between Jordan and the GCC was approximately more than \$6 billion in 2018. The GCC contributed to 18.4% of Jordan's exports and 24.2% of its imports (Hashmi et al., 2020).

For many years, the GCC countries have played a major role in Egypt's economy as investors, donors, and employers, but since 2011, they have taken a leading role in the country's policies. According to a Gulf newspaper, in 2019, an

unidentified official from the central bank of Egypt reported the astronomical amount of assistance the gulf states gave to Egypt since 2011 amounting to \$92 billion (Dunne, 2020).

MENA eight countries that consist of Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, and UAE have many economic, political, social, cultural interrelations. However, six of them constituted a GCC alliance. Further, Jordan might become a member in this alliance as it has economic, financial labor, strategic, security, and cultural relations with the GCC countries. Egypt has also political, economic connections with the GCC countries. For example, in 2021, the volume of trade exchange between Egypt and the GCC was estimated to be \$16.1 billion.

1.2.1 The MENA Equity Markets

Since 1990's, the majority of countries in MENA region followed agenda of reforms to liberalise and develop their stock markets, aiming to improve investment in private sector and achieve investor protection. The developments of stock market are integral to financial development which is linked to country's economic growth. However, MENA capital markets are almost new in the global economy (Yusoff & Guima, 2015).

According to World Bank (2023) , the MENA region contributes 4% to world's GDP in 2023. Nevertheless, the size of stock markets in MENA is considered very small at 4% of world market capitalisation and the capitalisation of stock market as a percent of GDP varies devilishly among the MENA countries. During the period 2012-2022, the development of stock market in MENA in terms of market capitalisation of listed domestic firms, percent of GDP, peaked at 179% in 2020 and bottomed at 32%

in 2012. As of 2023, the equity markets in the selected MENA countries consists of 1,234 listed firms, which have approximately \$4,435 billion market capitalisation, where, Saudi Arabia is the MENA largest country in terms of market capitalisation (\$3,002.5 billion).

Table 1.1 shows the distribution of MENA 1,234 listed companies by country in 2023. In this year, the MENA equity market capitalisation of listed domestic companies, which is \$4,435 trillion, represents approximately 173% of GDP with around 12% increase from the previous number of \$3,948 trillion for 2022, which represents approximately 145% of GDP (World Bank, 2023).

Table 1.1 The Statistics of Listed Companies on the MENA Stock Markets 2023

Country	Number of listed Domestic companies	Percentage of total listed domestic companies (%)
Bahrain	42	03.40
Egypt	244	19.77
Jordan	169	13.70
Kuwait	149	12.08
Oman	106	08.59
Qatar	51	04.13
Saudi Arabia	310	25.12
UAE	<u>163</u>	<u>13.21</u>
Total	1,234	100.00

Source: The World Bank, World Bank Development Indicators Database (2023).

In 2023, the stock market developments in the MENA countries -as measured by market capitalisation of listed domestic firms, percent of GDP, - were 44.7% for Bahrain, 13% for Egypt, 46.8% for Jordan, 79.2% for Kuwait, 47.3% for Oman, 79.7% for Qatar, 281.2% for Saudi Arabia, and 190.5% for the UAE. The largest MENA country in terms of market capitalisation (% of GDP) was the Saudi Arabia and the smallest country was Egypt (Figure 1.1).

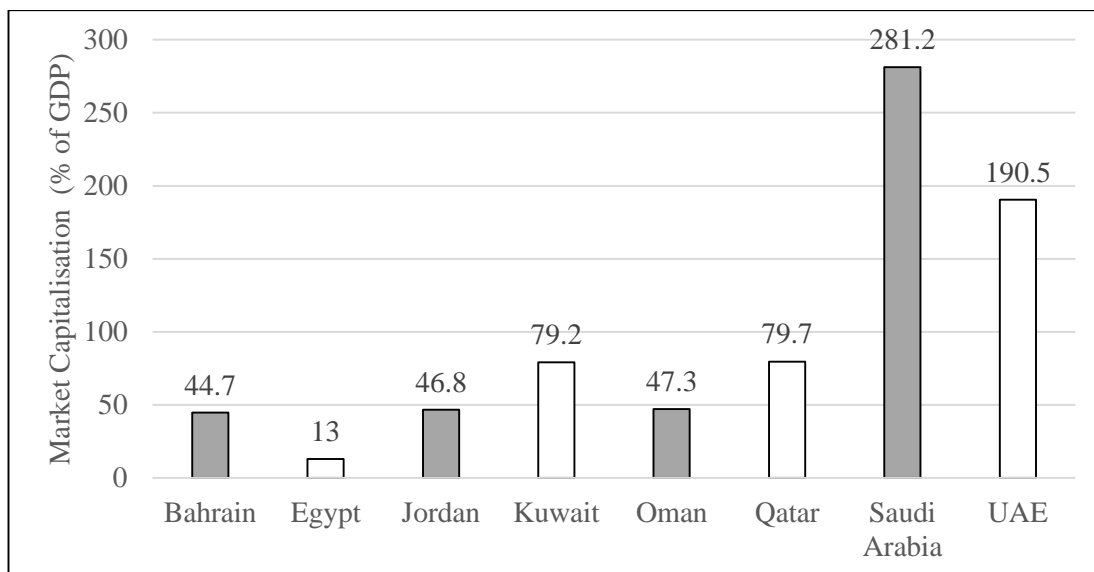


Figure 1.1 The MENA Countries' Market Capitalisation (% of GDP) in 2023

Source: The World Bank, World Bank Development Indicators Database (2023).

1.2.2 The MENA Banking Markets

Banking markets, which are considered as one of the key pillars supporting the countries' economies, often dominate financial industry. According to World Bank (2018), the banking markets play an increasingly important role in the economies of MENA, where the percentage of bank deposits to GDP in 2015 is 80% as compared to the world's percentage of 50%. During 2016-2020, the bank deposits to GDP percentages exceeded 80% in countries such as Jordan, Kuwait, Qatar, the UAE. In contrast, in other countries, the bank deposits to GDP percentages were around 50% (e.g., Oman) or less (e.g., Saudi Arabia) (World Bank, 2020). The MENA central banks websites show that there are 298 banks scattered across the MENA eight countries in 2023. Bahrain has the largest number of banks (84 banks) among the MENA countries while Oman has the smallest number of banks (19 banks). Table 1.2 sheds the light on the number of banks in selected MENA countries and the bank deposits to GDP (%) during 2016-2020.

Table 1.2 The Number of Banks in MENA Countries in 2023 and the Bank Deposits to GDP (%) during 2016-2020

Year MENA Countries	Number of Banks ¹	Bank Deposits to GDP (%) ²				
	2023	2016	2017	2018	2019	2020
Bahrain	84	-	-	-	-	-
Egypt	36	84.04	80.54	71.82	67.71	74.04
Jordan	20	97.88	93.73	90.73	91.65	95.26
Kuwait	22	103.26	96.70	86.50	-	-
Oman	19	56.13	54.54	52.67	56.24	-
Qatar	20	87.92	100.91	82.83	88.49	110
Saudi Arabia	36	40.35	38.75	-	-	-
UAE	<u>61</u>	88.67	85.29	79.80	86.27	-
Total banks	298					

Source: The Websites of Central Banks in MENA Countries (2023)¹.

Source: The World Bank Development Indicators Database (2020)².

Banking markets remain highly concentrated in most countries and regions worldwide. For instance, the percentage of the top 5 banks of total banking market assets in 2016 was on average 80% in high-income OECD countries and regions like the Caribbean and Latin America, Sub-Saharan Africa, and MENA (World Bank, 2019a).

Access to finance is one of the challenges for SMEs and some large firms in the MENA region. This challenge is due to regional conflicts, large equity market concentration, high banking concentration, large collateral requirements, and limited diversified sectors. The domestic credit to private sector for the MENA region was mostly provided by banking systems. It is clear that the domestic credit to private sector by banks, percent of GDP, was 64.5% in 2023.

The percent of banks non-performing loans to total loans for MENA in 2018 was around 6%. Several aspects of company WC policies are significantly influenced when the availability of bank loans changes. Moreover, these effects vary between bank-dependent and bank-nondependent companies (Chen & Kieschnick, 2018). However, the percent of banks non-performing loans to total loans in 2023 for MENA was approximately 4%.

Figure 1.2 shows the domestic credit to private sector by banks, percent of GDP, and the non-performing loans percentages for selected MENA countries in 2023.

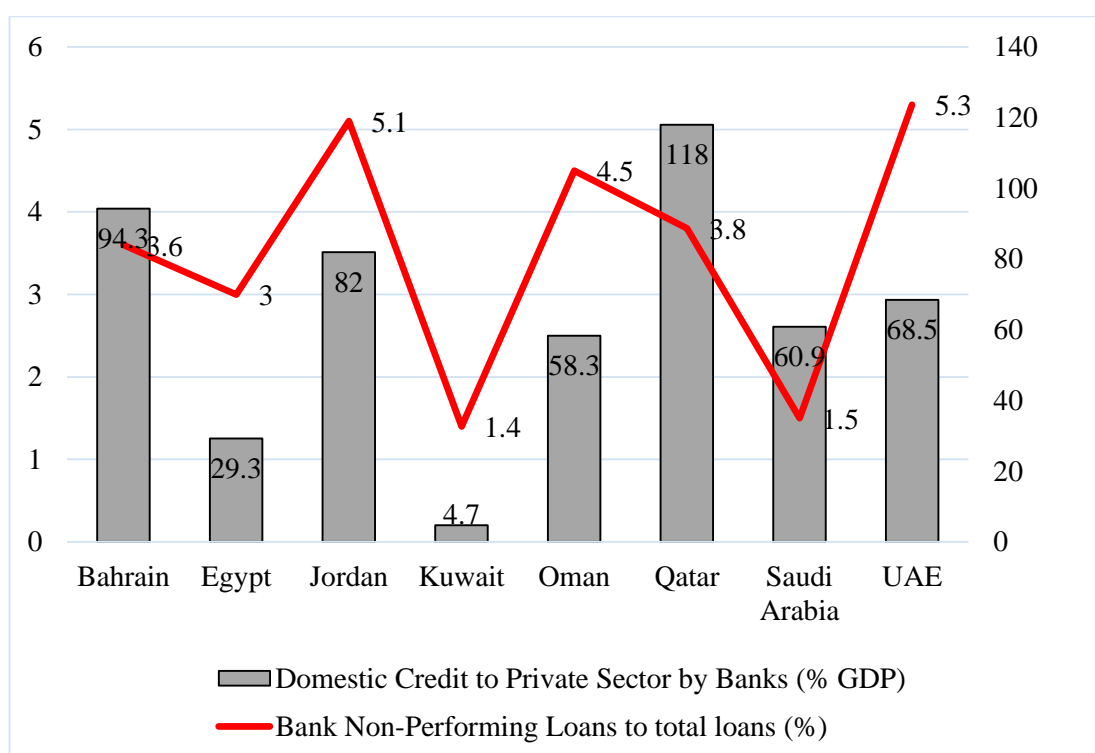


Figure 1.2 Domestic Credit to Private Sector and Nonperforming Loans by Banks for MENA Countries in 2023

Source: The World Bank, World Bank Development Indicators Database (2023).

The world regions vary with respect to the percentage of firms relying on banks to finance their WC and investments. Moreover, in 2018, 24.3% of firms in MENA region are financing the WC via banks compared to the global percentage of 27.7%.

On the other hand, the percentage of firms using banks to finance investments in the MENA was 25.9% as compared to the world's percentage of 24.3%. The Sub-Saharan Africa had the lowest percentages of firms with regard to financing WC with 22.1% and investments with 19.3%. However, Latin America and Caribbean Region had the largest percentages with respect to financing WC with 41% and investments with 41.2% (World Bank, 2018).

1.2.3 The Corporate Governance in the MENA Countries

In the economic crisis of 2008, many companies in emerging markets suffered severe losses because of failed risk management and governance. These severe losses and collapse of companies had led to lost jobs, commodities and services, where the economy is fragile and jobs are few (Roggi et al., 2012).

Recently, the benefits of corporate governance in MENA region are increasingly understood. For the majority of firms in the MENA, corporate governance can help them to reduce the agency problem within family-owned businesses, decrease inter-generational issues. Countries responded by establishing institutes of corporate governance or institutes of directors. In addition, different countries issued corporate governance codes as in Bahrain, Egypt, Oman where the full code enforcement (whether its mandatory or voluntarily) was intimidating (El-Shabrawishi et al., 2011).

Companies worldwide can be managed through various models of board structures. In the MENA region, one-tier boards are most common. For instance, Morocco, Tunisia, and UAE Dubai International Financial Centre (DIFC) propose the selection of either a single or dual-tier board models, however, the majority of listed firms has a single-tier board model. In view of its potential impact on company

performance, the structure and independence of boards have been of primary interest to authorities as well as scholars, as in the agency theory. The required board size varies in MENA region, in which the minimum board size is between 3 and 5 members, while the maximum board size ranges between 9 and 15 members with exceptions in some jurisdictions for specific firms such as non-listed companies and banks. Despite various models of board structures, nearly all jurisdictions have laid down a recommendation or requirement regarding the minimum number of independent directors or their ratio, with a majority of them promoting separation of the board chairman and the CEO (OECD, 2018a). Table 1.3 shows the structure of and the size of boards in selected MENA countries. According to Gill and Biger (2013), strong governance practices and structures improve the firm's WCME.

Table 1.3 The Board Structure and Size in Selected MENA Jurisdictions

Jurisdiction	Board Structure		Size of Board of Directors (One-Tier model)		Size of Management Board (in Two-Tier model)		Minimum Number or Ratio of Independent Directors	Separation of the Board Chairman and the CEO
	One Tier	One and Two Tier	Min	Max	Min	Max		
Bahrain	√		5	15			One-third or 3 Independent members	L
Egypt	√		3	No			minimum 2 independent members for listed firms	C
Jordan	√		5 ¹	13			33%	R
Kuwait	√		5 ²	No			1 independent member with a maximum 50% of members	R ³
Oman	√		5	12			33%, with a minimum of 2 independent members	L and C
Qatar	√		5	11			33%	R
Saudi Arabia	√		3	11			33% or 2 independent members whichever is larger	L
UAE DIFC		√	No ⁴	No	No	No	2 independent members	C
UAE Federal	√		3	11			33%	L

Source: OECD (2019).

Key: No: no specific requirement or recommendation; L: required by law or regulations; R: Listing rule; C: recommendation by the codes or principles.

¹ Minimum board size for banks is 11 members.

² Minimum board size for non-listed closed firms is 3 with no maximum board size.

³ Separation of the CEO and board chairman for non-listed closed firms is not a requirement.

⁴ Particular type of board structure is not required and boards with multiple-tier are supported.

1.2.4 The Working Capital Management efficiency, Risk Aversion or Risk Seeking, and Agency Cost of Free Cash Flow

Dealing with uncertainties and firm risk-taking are essential elements of doing business. The effective oversight of firm risk-taking is a major responsibility of the company board. The board must provide the needed protection to profitable operations “the golden goose” in the face of regular risks and improbable disasters “the black swans”. Any business has uncertainties in doing its operations (i.e., uncertainty is an inherent part of business risk). The business and its risk are inseparable; and there is no business without risk. Rewards earned by any business compensate for risk-taking. Good firm risk-taking not only can result in more efficient activities and large cash flows from current assets, but also more reinvestment and large return on capital, both of which can lead to higher value-added growth (Roggi et al., 2012).

Profitability in the MENA countries is not stable because of the political situation and economic scenarios they face from time to time. The MENA region has more instabilities compared to other regions and MENA countries pay for high risk exposure in terms of political issues that will affect the WCM of firms in this region. According to Hasan et al. (2014), the institutional infrastructures in the countries of MENA region are different from other regions in terms of their political, legal, economic, and corporate governance structures and several countries have intensified their efforts to comply in the aftermath of the economic crisis and the political protests waves.

The WC relates to free cash flow and in turn firms’ value. As noted by El-Ansary and Al-Gazzar (2021), the efforts of corporate managers to optimise WC in MENA countries are beneficial in terms of financial performance.

In MENA equity market, free cash flow has significant negative association with dividend policy and this signals severe agency problems and shareholders' expropriation within companies. Managers of companies increase dividends pay-outs during economic recessions to reassure investors fearing insiders' expropriation (Jabbouri, 2016). According to Farooq et al. (2018), increasing dividends pay-outs leads to lower agency problem which in turn results in firm disclosure of more truthfully information, thus enhancing the credibility of reported earnings.

According to Ernst and Young (2017), there was a cash unnecessarily tied up in the WC of \$29.8 billion in MENA region in 2016. In terms of the CCC (from lowest to highest), countries were ranked as follow: Bahrain, Qatar, Egypt, Oman, Kuwait, Jordan and UAE, and Saudi Arabia. The percentage of non-improvers of top companies was 80% in Bahrain, followed by Jordan with a percentage of 73%.

1.2.5 The Political and Economic Challenges in the MENA Region

Due to several factors, including reliance on oil market, political uncertainties, territorial disputes, MENA region is marked by volatility. It has a daily political and economic controversy, with this fact also being an interest factor (Andreano et al., 2013).

The MENA countries had successes and failures during the decade after the Arab Spring of 2010-2011. However, in some countries, macroeconomic stability has been underpinned by initial reforms wave. The deep-rooted challenges of human resources and governance are reflected in the youth and women high unemployment rates, which result from the impact of government on economies. Further, the development progress is being hampered by conflicts in some countries. These

challenges have been aggravated by the pandemic of COVID-19 and it is more important than ever for countries to enhance their governance as well as to restore trust with citizens; strengthen human resources; promote employment and economy change; improve equality of men and women; deal with the root causes of frailty, dispute, violence; and hasten green, resilient, and inclusive growth (World Bank, 2021a).

Many countries in MENA region are gripped by instability over a year after the pandemic of the COVID-19. The pandemic's combined global and regional effects pose threats which have pushed 192 million citizens (up from 176 million) in MENA countries into extreme poverty and nevertheless the political intervention of many MENA governments has been unprecedented. Yet, as governments attempt to keep their public services and alleviate the pandemic impacts via resources they possess, there are also challenges regarding the policy instability, conflict, and fragility. The costs to societies and economies in MENA region are likely to be high due to disruptions in key medical services, declining family income, the closure of schools, and prolonged unemployment (World Bank, 2021b).

The pandemic and the persistent price drops in oil have influenced all facets of economies in the MENA region. In 2020, the MENA economy is expected to shrink by 5.2% in line with the growing unfavourable economic outlook even though the region is projected to start partial recovery in 2021 (Arezki et al., 2020). According to the World Bank, the GDP of MENA countries declined by 3.8% in 2020 and is projected to grow by 2.8% in 2021 (Gatti et al., 2021).

According to Baduel et al. (2019), small MENA firms experienced many constraints in structures by the business climate at the time of the Arab Spring than similar firms in other regions. MENA firms created weaker jobs around the times of Arab Spring because of the macroeconomic performance and the political instability. Compared to their counterparts, the lack of growth in employment for MENA firms is partly due to weak GDP growth, declining international competitiveness, corruption, insufficient access to financing and inadequate electricity supply.

1.3 Problem Statement

The main notion highlighted in this study is to examine the determinants of working capital management efficiency of firms in selected MENA countries. While considering the moderating role of corporate governance factors of the board size, board independence, and CEO duality towards this efficiency. The study also addresses the endogenous relationship between the working capital management efficiency and risk-taking of firms. Firms in MENA countries are inefficient in their working capital management which affects their risk-taking attitudes to become a type of risk-averse firms at the expense of achieving higher profitability and growth. Thus, the factors of the cash conversion cycle days, the levels of free cash flow, debt financing, global crisis events, and corporate governance mechanisms are linked to this efficiency. The working capital management policies which vary from aggressive policies to conservative policies might accordingly determine managers' risk-taking behaviour which varies from risk-seeking to risk-averse. Besides, managers' involvement in risk-taking activities such as investment in fixed capital might also affect the way they manage the working capital.

The MENA stock markets and banking systems play an important role in the growth of economy only during the times of stability and this proposes that financial development is enhanced by structural adjustment projects and economic reforms, resulting in improved economic growth (Hamadi & Bassil, 2015). Nevertheless, the growth of economy for MENA region lags the emerging and developing regions worldwide (OECD, 2016).

A few issues below lead to the need of the study:

Firstly, the relationship between the cash conversion cycle (CCC) and its components towards the working capital management efficiency (WCME) in the MENA region needs to be confirmed. Firms in MENA countries have longer CCC days and are inefficient in their management of receivables and inventories, and they are taking more days to pay their payables. Since the pandemic, firms focused on the indirect costs and working capital optimisation. Nevertheless, there are still opportunities across the region for sustainable cash release. There is \$50 billion currently trapped on the balance sheets of companies (Farzadi et al., 2024). The CCC is a crucial measure of firm's financial health. Between 2017 and 2021, the CCC increased on average by 5 days for firms in MENA countries. This increase corresponds to \$14.5 billion tied up in working capital by firms which they could not invest elsewhere, compared with 2017. There is \$35.5 billion of excess working capital locked up on the balance sheets of firms (Farzadi & Georgescu, 2022).

Compared to advanced countries, the MENA countries lag behind in terms of the CCC and competency (Windaus et al., 2019). For instance, a roughly 1,500 US companies had around \$756 billion to \$1.9 trillion of unnecessarily cash tied up in the working capital (WC) in developing countries in 2018, which was equivalent to

between 20%-52% of the WC; whereas, 1,500 European companies had €803 billion to €1.9 trillions of cash that have been unnecessarily tied up in the WC, which is equivalent to between 22%-53% of firms' WC. In total, these leading US and European companies had a total up to \$2.5 trillion cash trapped across the WC components, which is equivalent to closely 10% of gross sales (Ernst & Young, 2019).

The MENA companies have been inefficient in their management of receivables, inventory, and they are prolonging payable cycle to optimise the WC. The percentage of WC per sales for the MENA non-financial firms in Jordan, Saudi Arabia, UAE, Kuwait, Egypt, Oman, Qatar, and Bahrain increased to 33.7% in 2017 from 27.4% in 2013. The receivables collection period rose from 72 days in 2013 to 92 days in 2017 while the inventory conversion period increased from 66 days in 2013 to 78 days in 2017. These increases were offset by extending the payables deferral period from 37 days in 2013 to 48 days in 2017 (Ernst & Young, 2018).

In the MENA region, with respect to the CCC and its components (the inventory conversion period, the receivables collection period, and the payables deferral period), the CCC had an increase of 8 days in 2016 primarily due to the increase in receivables collection period. Firms are collecting their receivables 7 days slower in 2016. This slow collection is driven by many factors such as increase in credit period, weaker collection process and liquidity issues for some customers. In addition, the inventory conversion period deteriorated by 5 days in 2016. Around 50% of the firms revealed deterioration in inventory conversion period in 2016; where around 30% of the firms deteriorated in inventory conversion period by more than 20%. Moreover, the payables deferral period increased by 5 days in 2016. The increase was due to improved credit terms or delay in payments. This reveals the MENA firms

have not been able to pass on their increased receivables collection period down to their suppliers through increasing payment terms (Ernst & Young, 2017). Firms with the longer CCC days are inefficient in their working capital management (WCM), thus, it is appropriate to examine the relationship between the CCC and WCME of firms in MENA countries.

Secondly, the relationship between free cash flow and debt financing towards the WCME in the MENA region needs to be investigated. Firms in MENA countries with free cash flow are investing heavily in WC to maintain liquidity at the expense of investing in fixed capital and achieving profitability and growth. Furthermore, these firms have increased levels of short-term debt which emphasises their need to invest more in WC.

Throughout 2023 and 2024, an increasing number of firms across key regional markets are experiencing different degrees of financial distress, largely due to deterioration in their ability to generate free cash flow and the primary driver behind this decline is the CCC. After pandemic, the regional restructuring market has witnessed an uptick in debt restructuring and reprofiling as firms have struggled with short and long-term debt repayment profiles, increasing cost of financing and misaligned cash flow generation projections and debt repayments. These restructurings have converted short-term obligations into longer term debt to align their debt profile with their projected future cash flows, hence this is also hiding the increase in short-term debt across the region. Nevertheless, the average short-term to long-term debt ratio is still above pre-pandemic levels. The average interest expense for corporations rose 37% year-on-year to reach a record high in 2023 whilst the total debt increased only 4% year-on-year. The key to decreasing the short-term debt burden

is to improve the overall efficiency of the working capital cycle to reduce the dependency on external financing. Cash released as well as the associated debt financing costs eliminated, could be used in turn to provide returns to shareholders or to reinvest in the company (Farzadi et al., 2024).

MENA firms have seen short-term increasing by 15% over 2021-2022. If firms release working capital from operations through performance improvement, not only could the financing costs be eliminated for the cash released, but treasurers could use the cash to generate returns by investing in fixed term deposits or other alternatives (Farzadi et al., 2023). According to Ernst and Young (2018), there was an opportunity of \$32.7 billion net cash in 2017 tied up in the WC three major components among 306 listed non-financial companies in Jordan, Saudi Arabia, UAE, Kuwait, Egypt, Oman, Qatar, and Bahrain. For the MENA firms, in 2017, the cash balance increased by 8.2%, the debt level increased by 15.5%, and as a result, the total WC increased by 4.8%. The companies in the GCC countries have less costly sources of finance when financing their inventories and/or holding cash than investing in fixed assets; and research and development costs (R&D) (Mansour et al., 2017). Given the agency problem among management and shareholders, firms can face low potential investments by reducing their free cash flows.

In 2019, MENA companies, which finance the WC via banks, accounted for 27.3% of total companies (World Bank, 2019c). The leverage is an important element that influences the decisions of cash holdings in the MENA countries. The leverage is inversely associated with cash holdings, and this suggests that MENA companies, which have the access to external sources of debt financing, can raise funds externally and accordingly, reduce their needs to hold cash (Al-Najjar & Clark, 2017). Belkhir et

al. (2016) established a negative relationship between firm liquidity and leverage in 9 out of 10 countries in the MENA region. Managers will incur more costs of value expropriation from creditors as a result of reduced asset liquidity; therefore, this decreases the debt cost, and consequently encourages companies to have more leverages.

In MENA countries, short-term debt increased by 12% and total debt rose by 2.5% in 2016. This emphasises the firms' need to invest more in the WC they require. In comparison with 2015, the overall net WC rose by 2% in 2016 (Ernst & Young, 2017). Thus, it is worthy to investigate the relationship between the free cash flow and the debt financing towards WCME of firms in the MENA countries.

Thirdly, the association between the global crisis events and the WCME in the MENA region needs to be considered. The COVID-19 pandemic and its regional repercussions have brought working capital to the attention of all kinds of organizations in the area. Since January 2020, regional governments and businesses have all responded differently. Many businesses have taken action to support their working capital following the initial survival phase. Some industries and businesses have recovered more robustly than anticipated. A distinct set of working capital pressures has been introduced by broader changes in consumer demand. All businesses, regardless of size, have had working capital challenges as a result of the pandemic in 2020. However, businesses that were better equipped in terms of technology and expertise were able to swiftly alter their operations. Therefore, it is not unexpected that working capital measures indicate that the pandemic proved particularly challenging for small businesses. (Farzadi et al., 2021).

During the last two decades, a number of severe outbreaks of emerging and re-emerging contagious diseases, such as MERS (Middle East Respiratory Syndrome), SARS (the Severe Acute Respiratory Syndrome), human monkeypox, and Ebola virus disease, have brought out many mortalities and much global concern (Reichart et al., 2016). Therefore, these crises will affect the WCM efficiencies of firms during the pandemic period.

However, most firms are expected to be severely disrupted by their normal business activities and will suffer from poor performance over a prolonged period of COVID-19 crisis. Their supply channel, commitments to producing, and important changes in consumer behaviour and demands are influenced by these disruptions. Thus, companies need to maintain strict discipline WC, specifically around collection of receivables and the inventory management. It is important to intervene to lighten the WC cycle (Ernst & Young, 2020).

At the end of June 2020, the mean performance of WC of MENA firms declined to 156.7 days during the COVID-19 lockdowns, as poor credit policy controls showed that the shifting demand patterns, the rate of collections, as well as stringent supply chain processes led to a build-up of inventory. The COVID-19 severely influenced the WC cycles. There was a deterioration in the receivables collection period to 123 days at the end of March 2020 and then was pushed up to 189 days by the end of June in the same year. Also, at the end of 2019, there was a sharp increase in the payables deferral period by 65 days, followed by an increase of 100 and 139 days at the end of March and June, respectively, of 2020. The inventory conversion period increased to 107 days at the end of the first quarter of 2020 and 134 days by the end of the second quarter of 2020 (Farzadi et al., 2021).

The MENA region is not an exception from this turmoil; therefore, it is worthy to specifically study the association between the global crisis events and the WCME of firms in the MENA region.

Fourthly, the relationship between the corporate governance and the WCME in the MENA region needs to be confirmed. The board size, board independence, and the CEO duality are corporate governance mechanism through which MENA firms can efficiently manage and optimise their WC. In MENA region, corporate governance practices are generally considered inadequately developed to encourage investments and improve the development of capital market. While the MENA economies proceed in strengthening corporate governance frameworks recently, MENA region continues to face challenges regarding its adoption and implementation of corporate governance measures with a view to promoting business efficiency, the sustainability of growth, and economic strength. It is evident that there is a scope to improve the corporate governance monitoring and enforcement processes in MENA countries (OECD, 2019a).

Limited studies are conducted in emerging MENA countries, which are not different from other emerging markets. In India and Pakistan, it was found that the corporate governance practices significantly influence the WCME (Shahid et al., 2016). Some attributes of business governance, such as the CEO duality, are considered crucial to explain the WCM. The effective practices of corporate governance of listed companies in India can lead to the liquidity aspect of the WCM (Prasad, Sivasankaran, et al., 2019).

In the MENA countries, although corporate governance reforms by themselves are very ineffective, the influence on profitability is quite pronounced when considered