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International Journal of Economic Policy in Emerging Economies

ISSN online: 1752-0460 - ISSN print: 1752-0452
https://www.inderscience.com/ijepee

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DOI: 10.1504/IJEPEE.2024.10067106

Article History:

Received:	10 January 2024
Last revised:	19 April 2024
Accepted:	12 August 2024
Published online:	16 December 2024

The impact of corporate governance on the working capital management of Vietnamese-listed firms during the COVID-19 pandemic period

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Abstract: This study evaluates the impact of corporate governance (CG) on the working capital management (WCM) of non-financial companies listed on the Vietnam stock market. In this study, we use the system generalised method of moments (SysGMM) regression method with panel data of 552 companies in 2015–2022 to examine the relationship mentioned above. The findings indicate a positive relationship between CG and WCM. This study provides empirical evidence regarding the role of CG mechanisms in the effectiveness of WCM strategies. Simultaneously, it expands current academic literature by introducing new empirical evidence that applies to countries with circumstances similar to Vietnam, especially amid economic crises and the aftermath of the post-COVID-19 epidemic. These discoveries offer managers, investors, and other interested parties valuable insights.

Keywords: working capital management; WCM; corporate governance; CG; COVID-19; Vietnam.

JEL codes: G30, G32.

Reference to this paper should be made as follows: Thanh, B.A. and Khuong, N.V. (2024) 'The impact of corporate governance on the working capital management of Vietnamese-listed firms during the COVID-19 pandemic period', *Int. J. Economic Policy in Emerging Economies*, Vol. 20, No. 5, pp.24–40.

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1 Introduction

Working capital includes accounts receivable, inventory, accounts payable, and compelling use for daily operations (Gill and Biger, 2013). Enhancing the working capital equilibrium reduces the company's working capital needs, subsequently bolstering its free cash flow (Ganesan, 2007). From this practical viewpoint, previous studies have investigated the role of an effective working capital management (WCM) in companies and established a clear connection between effective WCM and a company's profitability, overall value, and liquidity (Kamel, 2015; Meshack, 2015; Johan et al., 2024; Moore et al., 2023; Sargon, 2024). In other words, effective WCM is a fundamental component in the successful operation of every company. Managers can enhance shareholder value by shortening the time required to collect accounts receivable and minimising the duration that inventory is held to a reasonable minimum (Deloof, 2003; Kumpamool and Chancharat, 2022; Sargon, 2024; Shahid et al., 2020).

Managing current assets and current liabilities is indispensable due to the dynamic role of WCM in shaping a company's profitability, market value, and risk level (Smith, 1980). There is a direct impact on how companies manage their working capital on the balance between profitability and liquidity (Shin and Soenen, 1998). To ensure that a company can meet its short-term commitments, liquidity is a prerequisite (Abuzayed, 2012). However, if a company decides to focus solely on liquidity, its profits may be affected. Therefore, financial managers in companies need to address this problem by maintaining the components of working capital at optimal levels (Nazir and Afza, 2009). There is another strand line of research about the determinants of an effective corporate governance (CG) mechanism, they emphasise that inadequate WCM strategies stemming from suboptimal CG can detrimentally affect shareholder wealth (Kumpamool and Chancharat, 2022; Moore et al., 2023; Naz et al., 2021). Specifically, companies that fail to utilise their working capital due to an inefficient CG mechanism require more resources for their day-to-day operations than their competitors. Consequently, this can lead to unfavourable financial challenges (Naz et al., 2021). Furthermore, the company might miss out on valuable investment opportunities in the future due to the constraint on available cash, which may cause it to struggle to reward its investors adequately (Abuzayed, 2012; Nyeadi et al., 2018). From a practical viewpoint, several complex events, such as the 1998 financial crisis in Russia, Asia, and Brazil, and the global financial crisis in 2008, had led to the collapse of major global firms such as Adelphia,

Enron, Globalcross, Arthur Anderson, and WorldCom (Claessens and Yurtoglu, 2013; Lins et al., 2017), thereby the awareness of CG and WCM has been raised globally. Moreover, some researchers have investigated the factors behind the 2008 global financial crisis and pinpointed ineffective CG and suboptimal WCM practices as the primary contributors.

Although the association between CG and WCM has attracted attention from policymakers and investors in recent decades, few studies examine the relationship between CG and effective WCM (Kayani et al., 2019). Therefore, we fill this research gap by investigating the relationship between CG and WCM in Vietnam during and after the COVID-19 period. Furthermore, limited studies used the cash conversion cycle to measure WCM, especially in developing countries. Therefore, this study investigates the impact of CG on the cash conversion cycle of companies (Gill and Biger, 2013; Gill and Shah, 2012).

This study contributes significantly to CG and WCM literature in several ways.

First, we provide empirical evidence to analyse and evaluate the impact of CG principles on WCM after the COVID-19 epidemic. Because the COVID-19 pandemic has wreaked havoc and caused unprecedented economic instability, as most countries implemented movement controls (Hu and Zhang, 2021), due to the COVID-19 outbreak, many companies face supply-side and demand-side disruptions, which hinder the flow of goods and finance (Utit et al., 2021). Credit constraints make WCM a critical factor for operating performance. Companies with unstable cash flows and insufficient cash holdings appear vulnerable in the short term. Therefore, our findings help firms realise the importance of applied governance mechanisms and critical operational aspects in increasing WCM efficiency in crisis, thereby increasing the material for the overview.

Second, CG activities receive a lot of attention. However, most research focuses on the United States, European countries, and other countries with developed economies (Battaglia and Gallo, 2017; Adams and Mehran, 2012). Meanwhile, in Vietnam, the mechanism for controlling CG activities is primitive and underdeveloped. Recent years have seen the emergence of CG policies as a significant change in the environment, especially before and after the COVID-19 pandemic (Le and Nguyen, 2022), which leads to companies having an obligation to comply with regulations and instructions. Therefore, this is an entirely new context for studying the impact of CG on WCM. The findings from this study may be helpful to financial managers, investors, financial management consultants, listed companies, and other stakeholders, as well as extend the existing literature by generating new theoretical and empirical insights.

The study is divided into five sections; Section 1 discusses CG and WCM. The remaining four sections of this study are presented to clarify the aspects of CG mechanisms that impact WCM. The theoretical background and development of the proposed hypotheses are presented in Section 2. Section 3 provides a brief overview of the methodology. The study results are then discussed in Section 4, and recommendations for conclusions and implications are given in Section 5 based on the findings in Section 4.

2 Literature review and hypothesis development

2.1 Theoretical framework

Agency theory outlines the contractual relationship between a principal and an agent, where shareholders delegate managerial responsibilities to agents. It suggests that when both parties pursue their interests, there's a risk of the agent engaging in opportunistic behaviour that harms the owner's interests (Jensen and Meckling, 1976). Limited oversight by the principal can lead to moral hazard, increasing agency costs. The agency dilemma arises from the differing objectives of the agent and the principal, as highlighted by Jensen and Meckling (1976).

Agency theory promotes the segregation of managerial decision-making from corporate oversight, achieved through the distinction between the CEO and chairman roles (Coleman et al., 2020). The CEO focuses on making strategic decisions, while the board of directors (BODs) supervise and monitor their implementation (Jensen, 1987). The board holds the responsibility of establishing organisational policies, including those related to WCM (Coleman et al., 2020; Johan et al., 2024; Lu et al., 2022). Thus, in this study, we utilise agency theory to investigate the connection between CG mechanisms and WCM.

2.2 Hypothesis development

The governance structure helps align the interests of both the principal and the agent, and in this way, the governance structure can control the opportunistic behaviour of the agent (Jensen and Meckling, 1976; Li et al., 2020). Working capital is a tool to evaluate a company's financial position and is directly related to liquidity and profitability (Sagner, 2014; Kayani et al., 2023; Moore et al., 2023). CG mechanisms play a crucial role in effective WCM by introducing reasonable policies, including WCM policies (Boateng et al., 2021). According to Gill and Biger (2013), adequate liquidity is a prerequisite to operating a company's operations smoothly, and Board members are responsible for making policies to guarantee the same. Therefore, the BODs has a crucial role in making decisions related to working capital assets (Kumpamool and Chancharat, 2022; Lu et al., 2022).

Previous studies indicate that boards with greater independence will have stricter monitoring mechanisms and will result in more effective WCM and lower cash conversion cycles (Zariyawati et al., 2009; Fiador, 2016; Gill and Biger, 2013; Jamalinesari and Soheili, 2015; Fosu et al., 2021). As the independent directors may have knowledge or information that may allow the firm to have an efficient working capital policy, independent director(s) on the board will enhance efficient and effective WCM. Based on these, we expect a positive relationship between the number of independent directors on the board and WCM.

Furthermore, prior studies also indicate that the size of the board or the role of CEO duality influences WCM (Huse, 2007). According to agency theory, the size of the BODs plays a vital role in the directors' ability to oversee and control managers. A larger board size is seen as one with various expertise, diverse experience, and knowledge to enable proper decision-making that enhances firm performance better than a smaller board size (Khan et al., 2022; Kumpamool and Chancharat, 2022). At the same time, the study of Gill and Biger (2013) discovered no significant relationship between board size and

accounts receivable, inventory, cash conversion efficiency, and accounts payable. Abrar ul haq (2018) specified that the board structure also significantly impacts inventory, which results in the fact that we believe there is a relationship between the size of BODs and WCM.

CEO duality is seen as the CEO of a corporate organisation performing a dual role: CEO and board chairman. The dual role of the CEO causes a conflict of interest, which hinders the disclosure of some essential information for better decision-making by the BODs (Cornett et al., 2003). Where there is no dual role of the CEO, better decisions are taken with clarity and understanding, allowing for proper policy-making and monitoring (Chancharat and Kumpamool, 2022; Hsu and Liao, 2022; Sargon, 2024). Prior research shows a positive relationship between CEO duality and accounts receivable. CEO duality and the firm's internationalisation improve the efficiency of accounts receivable management, which in turn helps reduce working capital requirements (Kayani et al., 2021). Thus, we predict a positive relationship between CEO duality and WCM.

The audit committee plays a crucial role in ensuring good CG, with its impact on the BODs' performance being undeniable. Operating independently, this committee is tasked with meticulously preparing financial reports and ensuring accurate disclosure in adherence to reporting standards bolstered by robust internal control systems and stringent audit standards. Additionally, the audit committee advises the board on selecting external auditors, oversees management, and instils confidence in financial reports' precision, reliability, and quality. Research conducted by Kyereboah-Coleman et al. (2007) underscores the significance of the audit committee as an internal governance mechanism, highlighting its role in enhancing the quality of financial management within a company. Furthermore, findings from Akram et al. (2018) indicate a negative and insignificant relationship between audits and the current ratio while revealing a significant positive correlation between audits and inventory management. Detthamrong et al. (2017) demonstrate that smaller audit committees possessing financial expertise and extensive experience tend to be linked with favourable firm performance, suggesting a positive influence of the audit committee on efficient WCM, positively impacting firm performance. Thus, we anticipate a positive relationship between the audit committee and WCM.

Since policies related to the management of affairs, including working capital policy, are decided by the company's BODs, it can be hypothesised that CG impacts the efficiency of working capital. In summary, we propose the following hypothesis:

H1 CG has a positive impact on WCM.

3 Research design

3.1 Research model

To test the research hypothesis about predicting the impact of CG on WCM, we setup a research equation based on some previous studies (Gill and Biger, 2013; Sathyamoorthi et al., 2018; Daqar, 2020; Naz et al., 2021), the research equation is as follows:

$$WCM_{i,t} = \beta_0 + \beta_1 WCM_{i,t-1} + \beta_2 CG\_INDEX_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 GRW_{i,t} + \beta_6 NPM_{i,t} + \beta_7 AGE_{i,t} + \beta_8 COVID_{i,t} + \beta_9 Industry_{i,t} + \mu_{i,t}$$

The above variables include dependent variables, independent variables and control variables, which are measured in details in Table 10

Table 1 Variables measurement

Variables	*Symbol*	*Measurement*	*Reference*
Cash conversion cycle	WCM1	Cash flow from operating activities / Net revenue	Gill and Biger (2013), Sathyamoorthi et al. (2018); Daqar (2020), Fernando et al. (2020), Kundu et al. (2022) and Naz et al. (2021)
Current ratio	WCM2	Current assets / Current liabilities	
CG index	CG_INDEX	$CG\_INDEX = INDEX_1 + INDEX_2 + INDEX_3 + INDEX_4 + INDEX_5 + INDEX_6$	
Firm size	SIZE	SIZE = Logarithm of total assets	
Leverage	LEV	LEV = Total debt / Total equity	
Firm growth	GRW	$GRW = (Net\_revenue_t – Net\_revenue_{–1}) / Net\_revenune_{t–1}$	
Net profit margin	NPM	NPM = Income after corporate income tax / Net_revenue	
Firm age	AGE	AGE = Number of years of operation of the company from its establishment and operation until the year of study	

3.2 Variables and measurements

The cash conversion cycle is a proxy for WCM efficiency, calculated by the total of inventory holding time and receivable collection time and subtracting accounts payable payment time (Deloof, 2003; Lazaridis and Tryfonidis, 2006). To ensure the robustness of research findings, another measure of WCM effectiveness should be applied in addition to cash conversion efficiency measured. Therefore, the current ratio is utilised (Dhole et al., 2019). Based on the research of Naz et al. (2021), the author uses the following two variables to evaluate WCM. First, cash conversion efficiency (WCM1) is calculated as the ratio between cash flow from business activities and net revenue (Moussa, 2019). Second, the current ratio (WCM2) is the second scale measured by the ratio of short-term assets to short-term liabilities (Dhole et al., 2019). Previous studies have emphasised that an effective CG mechanism improves WCM, and an increase in corporate performance results from good WCM (Naz et al., 2021). Thus, cash conversion efficiency (WCM1) and short-term liquidity ratio (WCM2) are considered two dependent variables in the study.

A solid CG mechanism will act as a monitor function on the company's resource management. The BOD is responsible for developing all policies, including policies on working capital balance. Therefore, the effectiveness of the BODs will lead to effective CG. Therefore, the effectiveness of CG is measured by the CG index (CG_INDEX) (Fernando et al., 2020; Naz et al., 2021). The CG index is built based on the score assigned to each attribute of CG, which is the independence of the board, CEO duality, and ownership structure, etc. Therefore, the CG index (CG_INDEX) is considered an independent variable in the study.

CG index is used to evaluate the effectiveness of CG mechanisms. This index includes many related factors, including the composition of the BODs, the leadership structure of the BODs, and the structure and characteristics of the BODs. All research variables to build the CG index are dummy variables and have value 1 when the variable's value is above or below the median value. When deciding whether the value 1 of the dummy variable will be greater or less than the median (Naz et al., 2021; Lin et al., 2021; Dhole et al., 2019; Laing and Weir, 1999).

The first two elements that constitute the CG index are variables representing the composition of the BODs, including the size of the BODs and the proportion of independent members in the BODs. Therefore, BODs have greater size or equal to the median value of the research sample will receive a value of 1, otherwise value 0 (INDEX1). The same goes for the proportion of independent members in the BODs (INDEX2).

The leadership structure of the BODs is built through the following factors: duality of the CEO and concentrated ownership ratio. If the company's CEO is also the chairperson of the BODs, this index receives a value of 0. Otherwise, it is a value of 1 (INDEX3) (Tiep Le and Nguyen, 2022).

Besides, previous studies have shown that companies with high ownership concentration often have low operating efficiency (Rehman et al., 2021). Therefore, the index built based on the concentrated ownership ratio will receive the value 0 if the ownership ratio of the five largest shareholders is greater than or equal to the median value. Otherwise it will be the value 1 (INDEX4).

The remaining two indexes that make up the CG index are built based on the structure and characteristics of the BODs. Specifically, the fifth index (INDEX5) is built through the number of members of the supervisory committee or audit committee. Therefore, the fifth index will receive the value 1 when the number of members of the supervisory committee/audit committee is greater than or equal to the median value of the research sample. Otherwise, it is 0.

Finally, the number of independent members in the supervisory committee/audit committee is the sixth index (INDEX6) to build the CG index. Deli and Gillan (2000) provided evidence that the informativeness of accounting data is affected by both the independence and the performance of the audit committee. Therefore, INDEX6 will receive the value one if the proportion of independent members in the supervisory committee/audit committee is greater than or equal to the median value of the research sample. Otherwise this index receives the value 0.

The CG index is constructed by combining all the variables described above. Therefore, the index can range from 0 to 6 because this index is composed of 6 dummy variables with values 0 or 1.

$$CG\_INDEX = INDEX_1 + INDEX_2 + INDEX_3 + INDEX_4 + INDEX_5 + INDEX_6$$

While exploring the impact of CG on WCM, other variables that may have an impact need to be examined. That is company size (SIZE), financial leverage (LEV), revenue growth (GRW), net profit margin (NPM), and company age (AGE) used by Kundu et al. (2022) and Naz et al. (2021) were considered as control variables in the study. It is necessary to control for other variables that may influence the relationship between operating performance and individual elements of working capital. Afza and Nazir (2008) and Zariyawati et al. (2010) found a negative relationship between working capital and

firm size. The ratio of liabilities to total equity and annual revenue growth are taken as control variables. According to Afza and Nazir (2008), companies with increasing debt ratios should pay more attention to working capital to avoid getting stuck in the operating cycle, and Abbadi and Abbadi (2013) argue that there is a negative relationship between a significant increase in working capital as firms increase leverage. Revenue growth can also affect WCM (Baños-Caballero et al., 2012). Zariyawati et al. (2010) shows a negative relationship between working capital and growth rate. Besides, there is a significant relationship between working capital policies and company profitability (Obeng et al., 2021). Therefore, profitability has a significant relationship with WCM. In addition, the maturity of the company also affects its performance, so the age of the company is also considered a control variable (Naz et al., 2021).

3.3 Sample selection

The data source consists of the financial statements and related information disclosures that non-financial companies listed on the Vietnam stock market have annually reported from 2015 to 2022. In this study, we choose the sample period from 2015 to 2022 for two reasons: First, we intend to capture the COVID-19 period to investigate further how COVID-19 impacts the effectiveness of the CG mechanism in Vietnam. Second, we also want to test how the newest regulation about CG mechanism in Vietnam, Circular 116/2020/TT-BTC, enhances the CG quality in Vietnam during and after COVID-19.

To ensure representativeness and reflect the performance of Vietnam's stock market, this study uses random sampling techniques. The sampling method must simultaneously meet the criteria for data collection. from different industries of 552 companies, including shares of companies that are still listed until the end of 2022; are not companies in the financial industry (banking, securities, and insurance); there are complete financial statements in the 2015–2022 period and finally is, all financial statements are audited and approved, meaning the financial statements are reflected honestly and reasonably in material aspects.

3.4 Estimation strategy

In this study, an endogeneity issue typically arises in empirical research conducted on panel datasets due to potential links between explanatory factors and error terms in regression. This can lead to biased and inaccurate conclusions. To address this issue, several strategies are employed. Firstly, control variables are utilised to mitigate the impacts of extraneous factors. Secondly, lagged independent variables are incorporated to tackle simultaneity problems. Thirdly, industry or firm fixed effects are employed to control for unobservable temporal invariants. Fourthly, instrumental variables are utilised to establish causation. Fifthly, the lagged dependent variable is integrated to capture the firm's previous observable and unobservable data. Li (2016) proposes various econometric approaches to address endogeneity, including instrumental variables, lagged dependent and independent variables, fixed effects, control variables, and SysGMM or dynamic models. Among these, SysGMM emerges as a particularly reliable strategy for coefficient correction, as it undergoes rigorous examination and demonstrates significant impact. Therefore, based on study of Javeed and Lefen (2019) and Javeed et al. (2020,

2021), to overcome the endogeneity issue, we use SysGMM with instrument variables to assess the relationship between CG and FV.

Regarding the SysGMM method, diagnostic tests are crucial in assessing the reliability of the SysGMM estimation and the validity of the underlying assumptions. In this study, we first conduct the Hansen Test to assess the validity of the instruments used in the estimation. It evaluates whether the instruments are correlated with the endogenous regressors but uncorrelated with the error term. A significant result may indicate that the instruments are not valid, raising concerns about the reliability of the estimation results. Furthermore, we also conduct the Arellano-Bond test to assess the presence of first-order and second-order serial correlation in the error term. It examines whether the first and second differences of the instruments are correlated with the error term. A significant result indicates the presence of first-order and second-order serial correlation, suggesting that the model may be misspecified.

4 Results and discussion

4.1 Descriptive statistics

Table 2 shows statistical results describing all variables of 552 non-financial companies in the Vietnam stock market from 2015–2022.

The dependent variables wcm1 and WCM2 have average values (mean) of 0.412 and 2.517, respectively, which proves that CG has an impact on WCM in the majority of non-financial companies. In addition, the standard deviation (std. dev.) of the above two variables (WCM1 = 3.907 and WCM2 = 3.412) has low values, indicating that the data points tend to be close to the average value of the dataset.

Table 2 Descriptive statistics

Variable	*Obs.*	*Mean*	*Std. dev.*	*Min*	*Max*
wcm1	4,117	0.412	3.907	–79.379	61.184
wcm2	4,212	2.517	3.412	0.122	62.703
cg_index	4,203	4.099	0.897	0	5
size	4,212	27.525	1.604	23.949	31.756
lev	4,212	0.476	0.222	0.009	1.376
grw	3,503	0.438	6.757	–0.996	254.652
npm	4,212	0.094	0.548	–19.3	19.318
age	4,212	26.326	15.543	0	132
Covid	*Freq.*		*Percent*		*Cum.*
0	2,698		64.06		64.06
1	1,514		35.94		100.00
Total	4,212		100.00		

The variable cg_index shows that most companies implement a CG index (mean = 4.099, std. dev. = 0.897). Additionally, the size variable has a mean of 27.525 and a standard deviation of 1,604; The variable lev has a mean value of 0.476 and a standard deviation of 0.222; the variable GRW mean value is 0.438, and the standard deviation is 6.757. The

NPM variable has a mean of 0.094 and a standard deviation of 0.548. Finally, the age variable has a mean of 26.326 and a standard deviation 15.543.

4.2 Correlation matrix

The correlation matrix is presented in Table 3. The maximum correlation value between variables does not exceed 0.8. Therefore, no multicollinearity can affect the research results (Afza and Nazir, 2008).

Table 3 Correlation matrix

	wcm1	*wcm2*	*cg_index*	*size*	*lev*	*grw*	*npm*	*age*	*covid*
wcm1	1.000								
wcm2	0.117	1.000							
cg_index	0.039	0.026	1.000						
size	–0.086	–0.206	0.043	1.000					
lev	–0.059	–0.526	–0.032	0.336	1.000				
grw	–0.001	0.005	0.009	0.035	0.003	1.000			
npm	–0.057	0.056	0.004	0.065	–0.053	0.012	1.000		
age	0.001	–0.067	–0.036	0.006	0.063	–0.017	–0.026	1.000	
covid	–0.000	0.032	0.133	0.087	–0.044	–0.030	–0.011	0.105	1.000

4.3 Empirical results

In this study, the author uses the SysGMM method to evaluate the relationship between CG and WCM. Previous studies used the SysGMM method, performing the Sargan/Hansen test to check the reasonableness of representative variables after estimating SysGMM and the Arellano-Bond test to test second-order autocorrelation (Mellado and Saona, 2020). Therefore, the author applies the SysGMM to analyse and research the impact of CG on the ability to manage the working capital of listed companies in Vietnam. Table 4 shows the SysGMM regression results of the relationship between CG and WCM. The Hansen test and second-order autocorrelation (AR^2) have p-values more significant than 10%, showing that the model is overdetermined and has no second-order autocorrelation. Therefore, the tests are satisfactory and reliable estimation results.

The results show that cg_index has a positive coefficient and is significant at the 99% level (regression coefficient = 0.353) for the wcm1 measure. This shows that businesses with good CG capabilities will have a positive impact on their ability to manage working capital well. The findings in this study agree with previous studies by Naz et al. (2021) and Guizani and Abdalkrim (2022). However, opposite results were found for studies by Fiador (2016) in Ghana and Kumpamool and Chancharat (2022) in Thailand. While previous studies used individual proxies to measure the CG capabilities of businesses, this study uses a composite CG index to fully assess all aspects of CG. These results endorse the notion that an effective governance system will improve the efficiency of WCM. Furthermore, our results are also consistent with earlier studies (Gill and Biger, 2013), as by adopting a well-functioning governance system, the current ratio declines as

lessor funds are blocked in current assets and more are invested to generate future returns.

Table 4 SysGMM regression results

Variables	*wcm1*
L.wcm1	0.053***
	[0.000]
cg_index	0.353***
	[0.000]
size	0,245
	[0.189]
lev	6.338***
	[0.000]
grw	–0.037***
	[0.000]
firmage	–1.524***
	[0.000]
npm	–0.362***
	[0.000]
covid	0.229**
	[0.011]
_cons	–6.483
	[0.206]
Industry fixed effect	*Yes*
Year fixed effect	*Yes*
N	3,408
No. of instruments	110
AR^2 test	0.547
Hansen test	0.236

From the pointed-out importance of the BODs in CG, the CG index built in this study is mainly established based on the different aspects of BOD. The positive relationship between the CG index and the ability to work capital management indicates that Vietnam's current regulations on CG mechanisms bring positive aspects in helping businesses improve CG capabilities. Previous studies also show a positive relationship between some factors of the BODs, such as gender diversity on the BODs and the duality of the CEO (Guizani and Abdalkrim, 2022). This relationship is found in the Malaysian context. It is consistent with the Malaysian context because this country is one of the countries in Southeast Asia with the highest CG performance regarding disclosure transparency and rights of shareholders (OECD, 2023).[1] In addition, Kumpamool and Chancharat (2022) also show that companies with larger boards of directors tend to achieve higher WCM efficiency with shorter net trading cycles. However, research by Kumpamool and Chancharat (2022) found no meaningful relationship between the independence of the BODs, the duality of the CEO, or board gender diversity in the

Thailand context. These conflicting results between previous studies with countries in the same region and with similar economic characteristics (all developing countries) have emphasised the limitations of previous studies. Only use individual CG factors related to CG. This study contributed to the body of research related to CG by using a CG index that includes multiple indicators related to aspects of the BODs. In other words, this study has filled in the previous research gap with a similar context of Vietnam - an emerging economy and a developing country in Southeast Asia.

4.4 Robustness test

In this study, the author uses another scale to measure a business's ability to manage working capital, which is the short-term liquidity ratio. The results regression results with the second measure of WCM ability are presented in Table 5. A positive association between CG ability and WCM ability is detected, this indicates that the results of this study are consistent and reliable.

Table 5 Robustness test

Variables	*wcm2*
L.wcm2	0.136***
	[0.000]
cg_index	0.688***
	[0.009]
size	0.490**
	[0.036]
lev	–12.265***
	[0.000]
grw	0.128*
	[0.070]
firmage	–0.813*
	[0.088]
npm	0,154
	[0.609]
covid	–0.214
	[0.178]
_cons	–5.833
	[0.397]
Industry fixed effect	*Yes*
Year fixed effect	*Yes*
N	3,500
No. of instruments	76
AR^2 test	0.357
Hansen test	0.289

5 Conclusions and implications

5.1 Conclusions

After analysing panel data with 552 companies using Stata, the results show that the hypothesis is accepted: CG positively impacts WCM. The results of this study will help companies realise the importance of applied governance mechanisms as well as critical operational aspects to increase WCM efficiency in emerging markets like Vietnam, thereby increasing the documents for the overview. In addition, this study also contributes to the review of research literature on factors affecting the effectiveness of WCM. This finding may be helpful for financial managers, investors, financial management consultants, listed companies, and other stakeholders, as well as extend the existing literature by generating new theoretical and experimental insights.

5.2 Policy implications and limitations

This study provides some implications as follows:

- Businesses need to control and increase the average collection time at a reasonable level to help businesses increase profitability. This also means businesses create conditions for customers to extend payment time to an acceptable level. Second, when businesses want to influence the cash conversion variable to increase profitability, they must be careful with the component variables. However, this result may change in the long term when businesses have to make trade-offs and choose the balance between elements of working capital.
- Manage working capital strictly through effective use of short-term assets (cash, receivables, inventory…) and consider reasonable levels in appropriating short-term debt of the business (must pay seller, borrow money…).
- As for policymakers, in the future, the government and relevant parties need to continue to build and develop the Enterprise Law and circulars and decrees on CG regulations to improve the quality of CG mechanisms along with market transparency. From there, businesses can improve their ability to manage working capital through effective CG mechanisms that have been built.

The study cannot avoid some shortcomings, and future studies can overcome these limitations: Considering the construction of the CG index, due to data limitations, the author cannot evaluate all aspects of CG, such as legal elements and the initiative of the BODs. Future studies may overcome this limitation. In addition, the impact of the COVID-19 pandemic may also affect CG activities and the ability to manage the working capital of businesses. Therefore, in the future, this aspect also needs to be considered and evaluated for its influence on the above relationship.

Acknowledgements

This research is funded by Ho Chi Minh University of Banking, Vietnam. This research is funded by University of Economics and Law, Vietnam National University Ho Chi Minh City, Vietnam.

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Notes

1 Enterprise Law 2020; Circular 116/2020/TT-BTC guiding corporate governance regulations for public companies.