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Empirical study on the leadership structure and working capital — based on the moderating effect of internal control

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ABSTRACT

The purpose of this study is to examine the relationship between CEO-chairman separation, internal control, and working capital. To achieve this research objective, the study employs the least squares method, using a sample of 22,719 observations from A-share listed companies on the Shanghai and Shenzhen Stock Exchanges from 2007 to 2019. The main hypotheses are tested through the coefficients of a multiple linear regression equation. The results of this study indicate that the implementation of role separation between the CEO and Chairman can effectively reduce the cash cycle and improve the efficiency of working capital management. Furthermore, good internal controls not only help to improve the effectiveness of managing working capital, they also help to moderate the connection between role separation and the effectiveness of managing working capital. Furthermore, compared with state-owned enterprises, private enterprises demonstrate a more significant impact of internal control effectiveness on improving working capital management efficiency. This further highlights the critical role of internal control in the working capital management of private enterprises.

Contribution/ Originality: Up to now, few scholars have studied whether the leadership structure has a positive impact on the working capital management efficiency of enterprises under effective internal control adjustments. Thus, this study enriches the existing literature on the topic and its contributions.

1. INTRODUCTION

Working capital refers to the funds allocated to current assets during an enterprise's production and business activities. As the most liquid, rapidly circulating, and dynamic asset, working capital functions like the lifeblood of an enterprise, providing energy and nutrients to the processes of procurement, production, inventory, and sales. It is therefore critical for the daily operations of a business. The flow of working capital must not be interrupted; any disruption could lead to severe consequences for the enterprise, including potential bankruptcy. As a result, the management of working capital, which is essential for an enterprise's survival and development, has garnered significant attention from both academia and practitioners. According to relevant data, financial managers in large U.S. companies spend approximately one-third of their time on working capital management, while in China, financial managers devote about 60% of their time to this task. This highlights the importance that corporate managers place on managing working capital.

As one of the core resources of an enterprise, the power structure of senior management and the effectiveness of internal supervision have a significant impact on the efficiency of working capital management. Scholars have conducted extensive research on the relationship between the power structure of senior management and the efficiency of working capital management, focusing primarily on the relationship between "dual-role consolidation" or "dual-role separation" and working capital management (Liao, Liu, & Chen, 2022; Wu & Zhou, 2019). Additionally, scholars have extensively studied the relationship between internal control and working capital management efficiency (Liu & Huang, 2017; Xie, Liu, & Wang, 2016), demonstrating that effective internal control has a significant positive impact on improving working capital management efficiency. However, these studies have largely overlooked the potential moderating effect of internal control on the relationship between leadership structure and working capital management efficiency, as well as the possible moderating role of company ownership (state-owned or private enterprises) in the relationship between internal control and working capital management efficiency. These research gaps not only limit a comprehensive understanding of the complexities of working capital management but also hinder the formulation and optimization of practical strategies for managing working capital.

To address these gaps, this study explores the correlation between leadership structure and internal control concerning working capital management efficiency. It delves into how leadership structure affects the efficiency of working capital management under the moderating influence of internal control. Additionally, it examines how effective internal control influences working capital management efficiency under the moderating effect of company ownership (state-owned versus private enterprises).

This research aims to enrich the theoretical framework of factors influencing working capital management efficiency and provide practical guidance for corporate management in optimizing internal governance structures and improving working capital management efficiency.

2. THEORETICAL FOUNDATION AND LITERATURE REVIEW

2.1. Theoretical Foundation

According to agency theory, the utility functions of the principal and the agent are not aligned, meaning that the goals of shareholders, as principals, differ from those of the board of directors, as agents. Each party makes decisions based on its respective objectives. Shareholders, as the owners of the company, typically focus on the company's long-term growth and sustainable profitability, aiming to maximize their investment returns through prudent operating strategies (Ngatno, Apriatni, & Youlianto, 2021).

To achieve these goals, shareholders expect the board of directors to adopt a cautious and responsible approach in areas such as risk control, cost management, and long-term strategic planning. However, the board of directors, as agents, may prioritize short-term performance and their own interests, such as compensation, promotions, and professional reputation. Because the board's utility function emphasizes short-term returns, it may favor high-risk, high-reward strategies, potentially neglecting the importance of the company's long-term strategy. This misalignment of utility functions leads to conflicts of interest between the two parties.

To mitigate these conflicts and achieve sustainable and healthy corporate development, a sound internal control system is crucial. An effective internal control system establishes reasonable supervision and incentive mechanisms, reduces information asymmetry, and compels the board to make decisions more transparently and responsibly. This can help balance the interests of shareholders and the board, ensuring both parties work together for the long-term development of the company.

Additionally, a robust internal control system standardizes and optimizes management and business processes at all levels of the company, thereby improving overall operational efficiency and effectiveness (Agbo, Gina, & Okundia, 2022). This not only helps reduce operational risks but also enhances resource allocation efficiency, ultimately strengthening the company's market competitiveness.

2.2. Literature Review

2.2.1. Review of Literature on Working Capital Management

Scholars began researching working capital management as early as the 1930s. Initially, the focus was on optimizing individual components of working capital. For example, William (1966) elaborated on optimization measures for individual elements such as cash, inventory, and accounts receivable in his book Working Capital Management. By the 1970s, scholars realized that optimizing individual components of working capital did not necessarily lead to overall optimization. Instead, companies should approach working capital management from the perspective of overall optimization (Knight, 1972). This shift marked a departure from the study of single components and ushered in a new era of research focusing on the integrated management of working capital. The research on working capital management by scholars has primarily concentrated on the following aspects:

2.2.1.1. Research on Factors Influencing Working Capital Management

Business operations are always influenced by certain internal and external environments. The internal environment of a company refers to the totality of its material and cultural surroundings, including factors such as company resources, capabilities, and corporate culture. The external environment of a company refers to the political, social, technological, and economic conditions affecting the business (Bachtiar, Atmoko, & Bachtiar, 2023). Changes in both internal and external environments will inevitably impact the management of working capital. Top-level management should consistently monitor changes in the internal and external environments. In particular, during periods of global economic downturn, company managers must adjust and optimize working capital management policies based on these changes to support the company's sustained and stable development.

Baños-Caballero, García-Teruel, and Martínez-Solano (2010) found that the correlation between CCC (Cash Conversion Cycle), GDP, and loan interest rates is not significant. When business operations are favorable, companies tend to invest more in working capital. Qiang and Yang (2021) studied the relationship between macroeconomic fluctuations and current assets. Due to precautionary motives, companies tend to hold more liquid funds during periods of economic volatility. Guo and Li (2019) examined the impact of economic cycles on working capital. They found that during economic prosperity, companies reduce their working capital holdings, while during economic downturns, they tend to increase working capital holdings. Jiao, Wen, and Zhang (2021) researched the relationship between corporate social responsibility and working capital management efficiency. Their study found that fulfilling corporate social responsibility helps improve working capital management efficiency. However, as the intensity of social responsibility increases, the incentive effect of social responsibility diminishes, and its impact on improving working capital management efficiency becomes insignificant. Some scholars have studied working capital from the supply chain perspective. Campello and Gao (2017) argued that higher customer concentration often leads to higher credit sales risks and bad debt losses for companies. Iqbal and Hayat (2020) examined the impact of suppliers on working capital, finding a "U"-shaped relationship. The aforementioned studies mainly focus on working capital management from the external environment perspective. Other scholars have studied working capital management from the internal environment perspective. Gao and Cheng (2017) found that the proportion of independent directors, as well as the proportion of directors, supervisors, and top executives' compensation in China's real estate industry, has a suppressive effect on working capital management performance. Meanwhile, the proportion of supervisors and management's stockholding ratio were positively correlated with working capital management performance. Seth, Chadha, Sharma, and Ruparel (2021) discovered that asset quality and reducing debt withdrawal are positively correlated with working capital management efficiency. Subbarayudu, Naveena, and Ravikishore (2020) showed that a company's attitude toward risk management affects its demand for working capital. Liao et al. (2022) found that the concentration of ownership is "U"-shaped to working capital management performance, and dual leadership significantly reduces the performance of working capital management.

2.2.1.2. Research on Evaluation Indicators of Working Capital Management Efficiency

The research on the evaluation indicators of working capital management efficiency is quite extensive. Since Hager (1976) first introduced the concept of the Cash Conversion Cycle (CCC), many scholars have studied the evaluation indicators of working capital management efficiency. Shin and Soenen (1998) introduced the concept of the Net Operating Cycle. Nazir and Afza (2008) proposed the concepts of the Net Liquid Balance (NLB) and Working Capital Requirements (WCR). Kaplan, Gruffydd-Jones, van Gemert, Kirenga, and Medford (2013) argued that it is not appropriate to evaluate working capital management performance based solely on a single factor; instead, a more comprehensive evaluation system should be constructed to assess working capital management performance. Gosman and Kelly (2018) suggested that when selecting performance evaluation indicators for working capital management, industry characteristics need to be considered. Haron and Nomran (2019), in their research on working capital management performance evaluation indicators, emphasized that working capital requirements and the net liquidity gap are crucial indicators for evaluating working capital management performance. They also pointed out that the debt-to-equity ratio has a certain impact on the evaluation of working capital management performance.

2.2.1.3. Research on the Relationship between Working Capital Management and Corporate Performance

Working capital management, as an important aspect of financial management, has a significant impact on a company's operational performance. Many scholars have conducted corresponding research on this topic. Gao (2019) conducted empirical research and found a negative correlation between accounts receivable turnover, accounts payable turnover, inventory turnover, and corporate performance. Therefore, strengthening working capital management can improve business performance.

Buisman, Haijema, and Bloemhof-Ruwaard (2019) proposed that effectively reducing the turnover period of working capital can significantly improve a company's profitability. Nawaz (2021) found that working capital management and corporate governance both have an impact on business performance and that company management can formulate appropriate working capital management systems to enhance corporate performance. Akbar, Akbar, Nazir, Poulova, and Ray (2021) studied the impact of working capital management on corporate performance and market risk. The results showed that higher working capital levels are positively correlated with business performance and are associated with lower stock price volatility, indicating that corporate management is more inclined to develop working capital policies that align with the company's development.

2.2.1.4. Research on Dynamic Adjustment of Working Capital

In recent years, many scholars have argued that working capital management is a dynamic adjustment process. Working capital management decisions are a process of continuous change, meaning the optimal level of working capital management cannot be achieved all at once but must be gradually adjusted to approach the target value. This process is referred to as the dynamic adjustment of working capital.

Baños-Caballero, García-Teruel, and Martínez-Solano (2014) found that there is a reasonable level of working capital demand for a company. When working capital demand deviates from the target value, management will take active measures to adjust it and bring it closer to the target value. Arockiya Doolsiya Mary and Prema (2020) believe that excessive working capital cannot generate profits, while insufficient working capital will lead to a decline in return on investment, thus affecting corporate profits. Therefore, dynamic adjustments must be made according to the company's actual situation.Sawarni, Narayanasamy, and Ayyalusamy (2020) argue that companies should be profit-oriented and adjust their working capital management strategies based on the environment to expand their operational scope, improve business quality, and enhance corporate performance. Sun and Wang (2017) found that the decision-making process for a company's working capital financing is a dynamic process of balancing risk and cost. The speed of adjustment in the working capital financing structure is influenced by supply chain relationships and the nature of ownership. Companies with higher supply chain concentration tend to adjust more quickly. Zhong

(2019) believes that market competition affects a company's cash holdings. The more intense the market competition, the faster a company adjusts its cash holdings, and this phenomenon is more pronounced in non-state-owned enterprises and fast-growing companies. This conclusion is consistent with Ran (2018) research on product market competition and the dynamic adjustment of cash holdings.

2.2.2. Review of Literature on the Effectiveness of Internal Control in Enterprises

The effectiveness of internal control in businesses has been extensively studied, with a particular focus on the following areas: factors influencing internal control effectiveness (Yusuf & Kanji, 2020), the impact of internal control on economic outcomes (Alawaqleh, 2021), and the disclosure of internal control deficiencies (Tran, Lam, & Luu, 2020).

2.2.2.1. Research on the Factors Influencing the Effectiveness of Internal Control

Many scholars have researched the factors influencing the effectiveness of internal control. Xie, Wei, and Xu (2017) found that the quality of internal control is influenced by the proportion of independent directors and the proportion of shares held by directors. Hamed and Babak (2019) argued that the effectiveness of internal control is affected by the organizational structure of the company and the reasonable allocation of responsibilities between departments. Klamm, Kobelsky, and Watson (2012) suggested that the quality of internal control is influenced by the professional competence of auditors, with higher professional qualifications leading to better internal control quality. Wolfe, Mauldin, and Diaz (2009) found that ownership concentration has a significant impact on the quality of internal control, affecting both the implementation and effectiveness of internal control systems. Some scholars have also found that company size and operational capabilities impact the quality of internal control (Su, 2020).

2.2.2.2. Research on the Economic Consequences of Internal Control

Internal control is a critical component of corporate governance, with its primary objective being to ensure the availability of high-quality accounting information for the organization. Currently, there is a broad consensus among scholars that effective internal control positively impacts the quality of accounting information (Altamuro & Beatty, 2010; Ge, Kim, & Kim, 2021). Implementing robust internal control systems helps companies enhance their performance (Brown, Pott, & Wömpener, 2014; Prawitt, Smith, & Wood, 2009). Some researchers have examined internal control from the perspective of business operations, suggesting that effective internal control can assist companies in establishing well-designed compensation systems (Chen & Liu, 2019), improving audit efficiency (Lin & Liao, 2022), and developing effective incentive mechanisms (Chen & Huang, 2019).

2.2.2.3. Research on the Disclosure of Internal Control Deficiencies

Regarding the disclosure of internal control deficiencies, many scholars have conducted relevant research from different perspectives. Babatunde and Dandago (2014) argue that internal control deficiencies can have severe negative impacts on companies and recommend strengthening internal controls. Pan and Song (2017) found that some audit firms, in order to secure higher audit fees, may choose to help companies conceal internal control deficiencies. Wang, Wu, and Ho (2021) discovered that voluntarily disclosing internal control deficiencies helps reduce a company's debt costs. Suhud and Wardhani (2019) found that the level of detail in the disclosure of internal control deficiencies affects a company's profitability, with more detailed disclosures leading to stronger profitability.

2.2.3. Summary of Literature Review

Based on existing literature, it can be observed that scholars have conducted relatively comprehensive research on the efficiency evaluation of working capital management performance. However, there is a lack of studies on the effectiveness evaluation of working capital management performance. This study will focus on the effectiveness of working capital management, using effective evaluation indicators to assess management performance.

Most studies on the effectiveness of internal control in enterprises remain at the institutional level, lacking empirical research to illustrate the specific control role of internal control in the operational execution process. Furthermore, there is no verification of how internal control impacts the performance of working capital management. Additionally, the current literature lacks empirical studies on the relationship between the effectiveness of internal control and the efficiency of working capital management. This study aims to examine the impact of internal control effectiveness on the efficiency of working capital management through empirical research. By doing so, it seeks to enrich the theoretical framework of factors influencing working capital management efficiency and provide a practical reference for enterprise management in optimizing internal governance structures and improving working capital management efficiency.

3. THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

3.1. Theoretical Framework

The principal-agent problem arising from the separation of ownership and control is a common issue in modern corporate enterprises. When the interests and goals of the principal (shareholders) and the agent (managers) are not aligned, it can lead to the agent deviating from the principal's interests in the process of managing the company. To align the interests of top management with those of shareholders, shareholders strive to establish a well-designed corporate governance structure, such as reasonable management rights arrangements, the design and implementation of incentive mechanisms, and the supervision and evaluation of the board of directors. At the same time, the company will establish effective internal controls to promote more efficient execution of the corporate governance structure, thereby improving business performance (Jiayao, Sadiq, & Ling, 2023). Based on the analysis of principal-agent theory, the research framework of this study is shown in Figure 1.

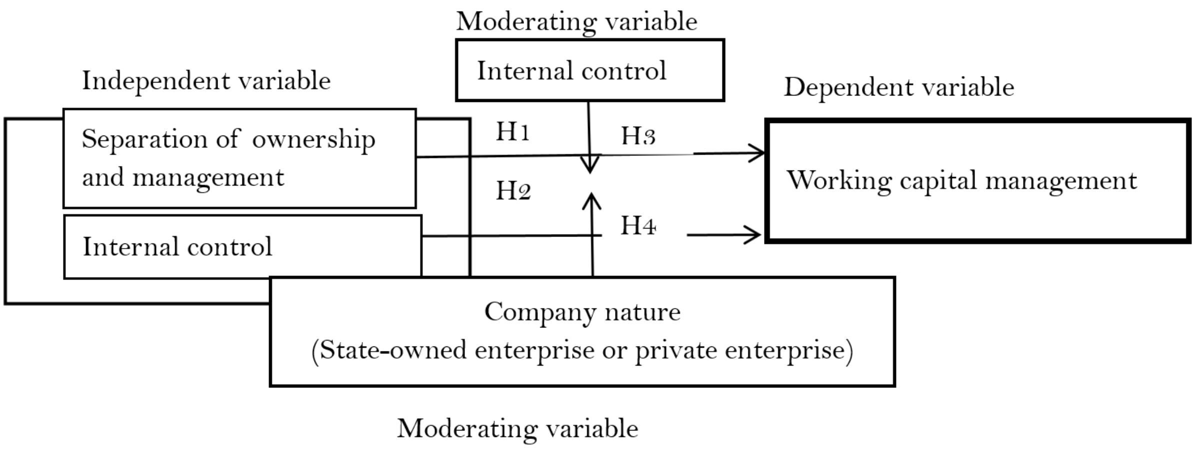

Figure 1. Theoretical framework.

3.2. Research Hypotheses

The leadership structure refers to the consolidation of the roles of Chief Executive Officer (CEO) and Chairman of the Board into one individual. When these positions are combined, it signifies a significant weakness in the corporate governance structure. From the Chairman's perspective, when they also serve as the CEO, the company's internal control system is compromised, as the board of directors is unable to carry out its essential duties effectively. The primary responsibilities of the Chairman include presiding over board meetings and overseeing the CEO's appointment and incentive programs. However, when the Chairman also serves as the CEO, they hold decision-making and oversight responsibilities, creating a power imbalance and rendering the board ineffective. From the CEO's perspective, when the CEO also holds the position of Chairman, it undermines the independence of the board of directors. As a result, managers are granted greater freedom to pursue their interests maximization (Puni &

Anlesinya, 2020). The CEO's control over the board limits shareholders' ability to voice their opinions on key issues, further compromising the overall interests of shareholders.

In the corporate governance process, whether to separate or combine the roles of Chairman and CEO is a crucial issue that directly impacts various aspects of business operations and significantly influences the firm's management (Dawood, ur Rehman, Majeed, & Idrees, 2023). When the board delegates decision-making authority to the CEO for operational activities, it still retains the responsibility to oversee the CEO's actions. However, if the roles of Chairman and CEO are combined, it undermines the fair and effective supervision of the CEO by the board of directors. This may weaken or even eliminate the actual functions of the board, enabling management to have greater power to maximize their interests, potentially leading to crises of "adverse selection" and "moral hazard." This compromises the protection of shareholders' collective interests and poses significant risks to the company's long-term operation and growth. From a systemic design perspective, companies should generally opt for role separation. When the Chairman also serves as the CEO, they act as both the "player" and the "referee," resulting in a power imbalance and diminishing the effectiveness of the board of directors (Yu, 2023). This can have detrimental effects on the company's daily management.

Sun (2018) studied 182 listed firms and analyzed 546 relevant data points. Using a multiple regression model, the results revealed a significant negative correlation between the company's operational performance and the dual role of Chairman and CEO, indicating potential risks to daily operations. In a study of retail companies, Liao et al. (2022) found that having the same individual serve as both Chairman and CEO negatively impacted the effectiveness of working capital management in day-to-day operations, based on an empirical analysis of corporate governance structure. Kao, Hodgkinson, and Jaafar (2019) also found that the performance of a company is negatively correlated with the CEO and Chairman positions being held by the same person.

This study proposes the first research hypothesis, which is based on the previous theoretical analysis:

H_1: The separation of dual roles is significantly positively correlated with operational capital management efficiency.

In the course of business operations, the separation of roles allows the Chairman and the General Manager to focus on their respective responsibilities. The Chairman can dedicate more time and energy to their primary duties, such as presiding over board meetings and overseeing the recruitment and incentive programs for the General Manager. Meanwhile, the General Manager, entrusted by the company's board of directors, can focus more on the daily management of the business. This includes formulating working capital management policies aligned with the company's development, taking into account internal and external operating environments, as well as managing relationships with stakeholders such as suppliers and customers. This division of roles ultimately enhances the efficiency of the company's working capital management.

Internal control serves as the foundational infrastructure for achieving corporate governance, and only sound internal control can bring governance into full effect (Xie & Liu, 2016). The effective use of authority by the Chairman and the General Manager requires a robust internal control framework within the enterprise. Without comprehensive internal control, relying solely on the supervision of board members, the Chairman and professional managers may conspire for personal gain, leveraging their positions to encroach on the company's interests. To prevent such occurrences and to ensure that the Chairman and the General Manager fully exercise their powers to create greater value for the company, a well-developed internal control system is indispensable. Sound internal control refers to a system established within the enterprise to better support its production and operations. It is crucial and irreplaceable in the business operation process. A high-quality and efficient internal control system can foster strong self-regulation within the enterprise, continuously reducing opportunities for executives to exploit their positions for personal gain. This, in turn, enhances the company's operational efficiency and effectiveness. Research by Sun and Wang (2017) has shown that internal control significantly amplifies the positive impact of corporate governance on business performance. Additionally, the quality of internal control is defined by five key components, which encompass numerous aspects of corporate governance. These components influence every employee within the organization and act as coordinating and supervisory mechanisms in managing the company's working capital. By doing so, they improve the overall efficiency of the enterprise's working capital management.

One of the five major objectives of corporate internal control is to enhance operational efficiency and effectiveness. Working capital, as the most liquid asset of an enterprise, is an indispensable part of its daily operations. The efficiency of working capital turnover serves as a partial indicator of the enterprise's operational efficiency and effectiveness, ultimately impacting its survival and development trajectory; it also has some bearing on how well the organization uses all of its available assets (Chen, Yang, Zhang, & Zhou, 2020). Internal control is crucial in determining the overall efficiency of company operations and management and, hence, has a substantial impact on operational capital management.

Based on the theoretical analysis provided above, this research proposes the following two hypotheses:

H_2: The effectiveness of internal control has a significant impact on the efficiency of operational capital management.

H_3: The quality of internal control can effectively promote the influence of "dual role separation" on operational capital management efficiency, demonstrating a positive moderating effect.

The distinct social structure in China leads to notable variations in the influence of internal control on operational capital across firms with varying property rights. The nature of the current managers of businesses impacts the extent to which internal control affects operational capital. The majority of China's economy is controlled by the state, with state-owned businesses or those with state ownership being the primary participants in the market economy. State-owned firms, as opposed to non-state-owned enterprises, often possess longer operational histories and encounter more significant internal and external limitations. Therefore, state-owned companies demonstrate stronger operational models and better-developed internal control systems (Hua, 2020). Consequently, relative to state-owned enterprises, private enterprises have greater room for internal improvement, and the governance effects resulting from the enhancement of internal control effectiveness are more pronounced in private enterprises.

Based on the above analysis, this study proposes the fourth hypothesis:

H_4: Compared to state-owned enterprises, the improvement of internal control effectiveness has a greater impact on the efficiency of working capital management in private enterprises.

4. RESEARCH DESIGN

4.1. Sample Selection and Data Source

4.1.1. Sample Selection

This study selects A-share companies listed on the Shanghai and Shenzhen Stock Exchanges from 2007 to 2019 as the research sample. The starting year of 2007 was chosen because, as of January 1, 2007, Chinese listed companies began implementing the new accounting standards. Considering the critical impact of accounting standards on financial data, this study uses 2007 as the starting point to ensure the consistency and comparability of financial data.

The cut-off year of 2019 was selected due to the global outbreak of the COVID-19 pandemic in 2020, which significantly affected the operating conditions of many companies. To eliminate the interference of this external factor, this study only includes data from 2019 and earlier, excluding data from 2020 and beyond.

During the sample data selection process, the study carefully considered the completeness of accounting information, the uniformity of accounting standards, and the impact of a company's going concern status. As a result, the following types of observations were excluded.

1. Observations from financial companies, as their accounting standards differ from those of non-financial companies.
2. Observations from companies under special treatments such as "ST" or "PT"; these companies face significant operational deficiencies.
3. Observations with missing variables due to undisclosed data.

After applying these filters, the final dataset comprised 22,719 valid observations. To minimize the influence of extreme values on the research results, all continuous variables were Winsorized at the top and bottom 1%.

4.1.2. Data Source

The data for this study are obtained entirely from secondary sources. Internal control data come from the DIB Database, while other financial and market data are sourced from the China Stock Market & Accounting Research Database (CSMAR).

The DIB Database, developed by DIB Enterprise Risk Management Technology Co., Ltd., is China's first specialized database in internal control and risk management. It is modeled after the Audit Analytics Database from abroad while incorporating DIB's extensive industry expertise. Recognized by leading professionals in China, the database offers comprehensive information and unique analytical insights in the fields of internal control and risk management. The CSMAR Database, developed by Shenzhen CSMAR Data Technology Co., Ltd., is a research-oriented database designed for precise economic and financial analysis. It is tailored to meet academic research needs by referencing the professional standards of authoritative databases such as CRSP, COMPUSTAT, and TAO.THOMSON, while also being adapted to the specific context of China. Existing scholars have demonstrated the feasibility and reliability of using the CSMAR Database to obtain financial data for Chinese-listed companies (Chen & Xie, 2019; Guo & Xu, 2021; Huang, Wang, Wang, & Yarovaya, 2023; Huang, Ling, & Lu, 2023). Many universities in China currently subscribe to these two databases. Access to them can be gained by visiting the library websites of these universities.

4.2. Variable Descriptions

4.2.1. Dependent Variable

Referring to the studies by Wang (2016) and Wen (2021), this research uses the cash conversion cycle (CCC) as a proxy to evaluate the efficiency of working capital management. A shorter cash conversion cycle indicates higher efficiency in managing working capital.

4.2.2. Independent Variables

To analyze the impact of leadership structures on working capital management efficiency, this study adopts the approach of Tang (2017) to define the "separation of powers" variable. If the chairman also serves as the CEO, the variable is set to 1; otherwise, if the roles are held by different individuals, it is set to 0. Furthermore, this study follows the method of Xie et al. (2016) to assess how the nature of the actual controller influences the effectiveness of internal control on working capital management efficiency. If the actual controller is a state-owned enterprise, the variable is assigned a value of 1; if the controller is a non-state-owned enterprise, the variable is assigned a value of 0.

4.2.3. Moderating Variable

High-quality internal control can effectively mitigate the risk of adverse selection by managers due to self-interest, enhance corporate information transparency, and thus improve corporate operating performance. Following the study by Hua (2020), the "Internal Control Index" from the DIB Database is used as a proxy for internal control effectiveness.

4.2.4. Control Variables

To ensure the accuracy and reliability of the research results, this study controls for other factors that may influence working capital management efficiency. Based on the research of Anton and Afloarei Nucu (2020); Alshirah et al. (2022) & Fernando, Jain, and Tripathy (2020). The following variables are included as control variables:

Firm Size: Larger firms generally have higher bargaining power and more stable cash flows, enabling them to manage working capital more effectively.

Revenue Growth Rate: Firms with high revenue growth may require more working capital to support rapid expansion and increased operational needs. Effective working capital management is crucial to address potential liquidity issues during growth.

Operating Leverage: Firms with high operating leverage face higher fixed costs, necessitating more precise working capital management to ensure cash flow stability and mitigate financial risks.

Financial Leverage: Firms with high financial leverage incur significant interest expenses, which can strain working capital. Effective working capital management is critical to meeting debt obligations and avoiding financial distress.

Years Listed: Firms with longer listing histories tend to accumulate more management experience and market adaptability. They are also likely to establish stronger market credit and reputations, which help them secure better credit terms in transactions with suppliers, customers, and financial institutions, thereby optimizing working capital management (Khidmat, Ayub Khan, & Ullah, 2020).

Furthermore, drawing on Jiang, Xue, and Xue (2018)'s research, this study incorporates industry dummy variables and year dummy variables to control for potential differences in working capital management efficiency across industries and data collection years.

The precise definitions and explanations of the variables are outlined in Table 1.

Table 1. Definitions and explanations of variables.

Nature of variables	Variable names	Variable symbols	Variable measurement
Dependent Variable	Efficiency of working capital management	CCC	Cash conversion cycle (CCC) = Accounts receivable turnover period + Inventory turnover period - Accounts payable turnover period
Independent variable	Separation of powers	Is	Chairman-CEO duality: 1 if the chairman also serves as the CEO, and 0 otherwise
	Nature of actual controller	State	The actual controller is 1 for state property and 0 for others.
Moderating variable	Effectiveness of internal control	Ice	Ln (Internal control index of listed companies)
Control variables	Company size	Size	Ln (Average total assets)
	Operating leverage ratio	Dol	(EBIT+F) /EBIT=M/ (M-F)
	Financial leverage ratio	Dfl	(△EPS/EPS)/(△EBIT/EBIT)
	Growth potential	Growth	Revenue growth rate
	Years listed	Age	Years listed
	Industry	Industry	Dummy variable, indicating the industry of the sample.
	Year	Year	Dummy variable, indicating the year of the sample.

4.3. Research Model

To empirically examine the impact of dual-role separation and internal control on the efficiency of corporate working capital management, this study constructs Model 1 and Model 2 based on the research of Xie and Liu (2016).

$$\mathrm{CCC}_{i,t} = \alpha_0 + \alpha_1 Is_{i,t} + \sum_j \alpha_j Controls_{j,i,t} + \sum Ind + \sum Year + \varepsilon \qquad (1)$$

$$\mathrm{CCC}_{i,t} = \beta_0 + \beta_1 Ice_{i,t} + \sum_j \beta_j Controls_{j,i,t} + \sum Ind + \sum Year + \varepsilon \qquad (2)$$

To further verify whether the moderating effects of Hypothesis 3 and Hypothesis 4 are indeed present, this study constructs Models 3 and 4, respectively, for testing.

$$\mathrm{CCC}_{i,t} = \gamma_0 + \gamma_1 Is_{i,t} + \gamma_2 Ice_{i,t} + \gamma_3 Is_{i,t} \times Ice_{i,t} + \sum_j \gamma_j Controls_{j,i,t} + \sum Ind + \sum Year + \varepsilon \qquad (3)$$

$$CCC_{i,t} = \delta_0 + \delta_1 State_{i,t} + \delta_2 Ice_{i,t} + \delta_3 State_{i,t} \times Ice_{i,t} + \sum_j \delta_j Controls_{j,i,t} + \sum Ind + \sum Year + \varepsilon \qquad (4)$$

4.4. Descriptive Statistics of the Relevant Variables

Table 2 displays the statistical characteristics of the variables. Table 2 shows that the average CCC value for the sample firms is 288.236. The greatest value is 2563.499, and the smallest value is -36.547. This suggests that there are significant variations in operational efficiency across the organizations. The mean value of Is for the sample organizations is 0.268, indicating that about 26.8% of these companies embrace the practice of integrating multiple responsibilities. Among the chosen sample firms, the highest and lowest Ice values are 3.862 and 1.792, respectively, suggesting significant disparity in the degree of internal control among the organizations.

Table 2. Descriptive statistics of variables.

Variables	Observations	Minimum value	First quartile	Mean	Standard deviation	Median	Third quartile	Maximum value
Ccc	22719	-36.547	95.336	288.236	394.278	183.097	316.112	2563.499
Is	22719	0	0	0.268	0.443	0	1	1
Ice	22719	1.792	3.463	3.528	0.246	3.594	3.680	3.862
Size	22719	19.908	21.300	22.226	1.283	22.040	22.956	26.186
Dfl	22719	0.555	0.991	1.427	1.094	1.091	1.369	8.326
Dol	22719	1.015	1.179	1.569	0.683	1.355	1.675	5.441
Growth	22719	-0.457	0.006	0.206	0.433	0.123	0.284	2.894
Age	22719	0	4	10.155	7.131	9	16	30

4.5. Correlation Analysis of Main Variables

Table 3 presents the Pearson correlation test results for the main variables. From Table 3, it can be observed that CCC and Is are significantly positively correlated at the 10% level, indicating that the dual-role structure indeed increases the cash conversion cycle and reduces the efficiency of working capital management. CCC is negatively correlated with Ice, suggesting that improvements in internal control effectiveness help reduce the working capital turnover period and enhance the efficiency of working capital management. However, the above analysis represents a simple mechanical correlation test and cannot be used to explain the hypotheses proposed in this study. More rigorous analysis requires the regression results presented in the subsequent sections for support.

Table 3. Correlation coefficients of key variables.

Variables	CCC	Is	Ice	Size	Dfl	Dol	Growth	Age
CCC	1							
Is	0.011*	1						
Ice	-0.009**	0.018***	1					
Size	0.085***	-0.176***	0.127***	1				
Dfl	-0.012*	-0.052***	-0.065***	0.135***	1			
Dol	-0.145***	-0.034***	-0.022***	-0.035***	0.259***	1		
Growth	-0.00400	0.023***	-0.061***	0.016**	-0.070***	-0.129***	1	
Age	0.093***	-0.239***	-0.0100	0.422***	0.139***	0.084***	-0.050***	1

Note: ***, ** and * in the table of this paper represent the significance level of 1%, 5% and 10% respectively (two-tailed).

5. EMPIRICAL RESULTS ANALYSIS

5.1. Separation of Chairman and CEO and Working Capital Management Efficiency

Column (1) of Table 4 presents the regression results for the relationship between role separation and working capital management efficiency. From Column (1) of Table 4, it can be observed that the cash conversion cycle indicator (CCC) is significantly positively correlated with dual-role consolidation at the 1% level. This indicates that when the Chairman also serves as the General Manager, the company's cash conversion cycle increases, thereby reducing the efficiency of working capital management. Therefore, the first research hypothesis — "Role separation is significantly positively correlated with working capital management efficiency"—is validated.

Table 4. Regression results of the separation of chairman and CEO, internal control, and working capital management efficiency.

Variables	CCC	
	(1)	(2)
Is	23.594*** (5.59)	
Ice		-36.559*** (-4.13)
Size	-8.601*** (-5.15)	-8.601*** (-5.14)
Dfl	9.046*** (5.21)	8.698*** (5.00)
Dol	-26.175*** (-9.28)	-26.563*** (-9.41)
Growth	-32.255*** (-7.63)	-32.543*** (-7.69)
Age	-1.563*** (-5.19)	-1.958*** (-6.58)
Intercept	530.962*** (13.34)	653.362*** (14.07)
Year	Yes	Yes
Industry	Yes	Yes
Observations	22,719	22,719
R^2	0.532	0.532

Note: ***, in the table of this paper represent the significance level of 1%, respectively (two-tailed).

5.2. Internal Control and Working Capital Management Efficiency

The regression findings between internal control levels and working capital management efficiency are shown in column (2) of Table 4. The cash conversion cycle (CCC) has a strong negative correlation with the internal control indicator (Ice) at a statistically significant level of 1%. The effectiveness of working capital management increases, the cash conversion cycle shortens, the organization's operational abilities improve, and the degree of internal control increases. This article's second hypothesis—that working capital management efficiency is highly impacted by the efficacy of internal control—has been confirmed.

5.3. The Moderating Effect of Internal Control on the Separation of Dual Roles

The study given in this article leads to the conclusion that improving the efficacy of internal control may bolster the favorable influence of the separation of powers on the efficiency of working capital management. Table 5, column (1), presents the test results for research hypothesis H3.

From the regression results in Table 5, column (1), it can be observed that the variable "Is" representing dual roles combined is significantly positive with operational fund management efficiency (CCC) at the 5% level, indicating that dual roles combination tends to reduce operational fund management efficiency. Meanwhile, the interaction term "Is*Ice" between dual roles combination and internal control effectiveness is significantly positive with CCC at the 10% level.

This indicates that enhancing the efficacy of internal controls may successfully reduce the adverse effects caused by combining multiple tasks in corporate operations. As a result, it facilitates the enhancement of operational fund management efficiency when dual roles are separated. Thus, the third study hypothesis in this work is confirmed, namely, that the quality of internal control may effectively enhance the influence of dual function separation on the efficiency of operational fund management, indicating a positive moderating effect.

Table 5. Regression results of the moderating effect.

Variables	CCC	
	(1)	(2)
Is	146.094** (2.18)	
Ice	-28.509*** (-2.98)	-58.663*** (-5.10)
Ls*Ice	-34.832* (-1.84)	
State		-180.347*** (-3.45)
State*Ice		46.907*** (3.16)
Size	-7.885*** (-4.70)	-7.521*** (-4.41)
Dfl	8.731*** (5.02)	8.855*** (5.09)
Dol	-26.436*** (-9.37)	-26.021*** (-9.20)
Growth	-33.003*** (-7.80)	-33.405*** (-7.88)
Age	-1.682*** (-5.57)	-1.616*** (-4.99)
Intercept	604.102*** (12.50)	715.213*** (13.26)
Year	Yes	Yes
Industry	Yes	Yes
Observations	22,719	22,719
R^2	0.533	0.533

Note: ***, ** and * in the table of this paper represent the significance level of 1%, 5% and 10% respectively (two-tailed).

5.4. The Moderating Effect of Property Rights on Internal Control

Private firms often have more potential for enhancing governance compared to state-owned enterprises. Thus, the impact of improving internal control on working capital management is expected to be more pronounced in private firms. To examine hypothesis H4, this research performed a regression analysis using model (4), and the findings are shown in column (2) of Table 5. Ice and CCC have a strong negative correlation at the 1% significance level, suggesting that enhancing internal control effectiveness may lead to a reduction in the cash conversion cycle and increase efficiency in managing working capital. The positive coefficient of the interaction term State*Ice indicates that state-owned property rights impede the beneficial impact of internal control on working capital management efficiency. Conversely, private ownership enhances the governance effect of internal control. This confirms hypothesis H4.

6. RESEARCH CONCLUSION AND RECOMMENDATIONS

This study, from the perspective of corporate leadership structure, uses a sample of non-financial A-share listed companies in China from 2007 to 2019 to empirically examine the impact of "dual-role separation" on the efficiency of working capital management. The empirical results indicate that implementing dual-role separation significantly reduces the cash conversion cycle and enhances operational management capabilities. This demonstrates the positive role of the dual-role separation mechanism in optimizing resource allocation, accelerating cash turnover, and improving the liquidity of corporate working capital. Specifically, dual-role separation reduces the retention of working capital in inventory, accounts receivable, and accounts payable, further promoting the flexible circulation of corporate funds. Additionally, the study finds that the effectiveness of internal control has a significant positive impact on working capital management efficiency. Strengthening internal control enhances the efficiency of working capital management, highlighting that an effective internal control system serves as a fundamental cornerstone for ensuring the standardized operation and efficient flow of corporate funds. Further analysis reveals that improvements in internal control effectiveness can effectively mitigate the negative impact of dual-role consolidation (where the chairman and general manager roles are held by the same person) on working capital management efficiency. This confirms that high-quality internal control provides the necessary oversight and checks-and-balances mechanisms, effectively preventing managerial opportunistic behaviors and ensuring the standardization and efficiency of working capital management. Notably, the study also finds that the positive effect of internal control effectiveness on working capital management efficiency is more pronounced in private enterprises. This finding contrasts with the results of Xie et al. (2016) suggesting the flexibility of private enterprises in management systems and governance structures. Private enterprises are better positioned to respond rapidly to market changes and implement and adjust internal control measures, thereby achieving significant short-term improvements in working capital management efficiency. In contrast, state-owned enterprises, with their complex hierarchical structures and lengthy decision-making processes, may experience delays in the effectiveness of internal control implementation.

Through this research, the study not only reveals the impact of corporate leadership structure on working capital management efficiency but also emphasizes the critical role of internal control in enhancing the efficiency of corporate fund management. These findings provide valuable insights for corporate management in optimizing internal governance structures and improving working capital management efficiency.

Based on the above research findings, this study proposes the following suggestions.

First, companies need to comprehensively strengthen the quality of internal control from multiple dimensions. A high-quality internal control system can significantly improve the management efficiency of working capital. By optimizing processes and strengthening supervision, it can effectively shorten the turnover cycle of working capital and improve the management efficiency of working capital.

Second, at the level of corporate governance structure, it is necessary to avoid the chairman of the board serving as general manager. If the chairman of the board also serves as general manager, it may lead to confusion between the roles of "referee" and "athlete". In the absence of effective supervision, the chairman of the board may abuse his power, which is not conducive to the improvement of working capital management efficiency; if the chairman and general manager are different people, the general manager will work under the supervision of the chairman, and the general manager will manage the enterprise more diligently and conscientiously, which is conducive to the improvement of the working capital management efficiency of the enterprise.

Third, the regulatory authorities should actively play a guiding role and encourage and promote private enterprises to strengthen the construction of internal control systems to enhance their market competitiveness. This study found that in private enterprises, the improvement of internal control effectiveness has a particularly significant effect on improving the efficiency of working capital management, which reflects that there is still huge potential for optimization and improvement within my country's private enterprises. Therefore, regulatory authorities should take practical and effective measures, such as providing policy guidance and conducting training and exchanges, to promote private enterprises to establish and improve internal control systems, fully tap and release the inherent potential of enterprises, and help enterprises achieve sustainable and healthy development.

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REFERENCES

Agbo, I. S., Gina, O. O., & Okundia, O. T. (2022). Internal control and working capital of SMEs in Nigeria. *Journal of Global Accounting, 8*(2), 13-26.

Akbar, A., Akbar, M., Nazir, M., Poulova, P., & Ray, S. (2021). Does working capital management influence operating and market risk of firms? *Risks, 9*(11), 201. https://doi.org/10.3390/risks9110201

Alawaqleh, Q. A. (2021). The effect of internal control on employee performance of small and medium-sized enterprises in Jordan: The role of accounting information system. *The Journal of Asian Finance, Economics and Business, 8*(3), 855-863.

Alshirah, M. H., Alfawareh, F. S., Alshira'h, A. F., Al-Eitan, G., Bani-Khalid, T., & Alsqour, M. d. (2022). Do corporate governance and gender diversity matter in firm performance (ROE)? Empirical evidence from Jordan. *Economies, 10*(4), 84. https://doi.org/10.3390/economies10040084

Altamuro, J., & Beatty, A. (2010). How does internal control regulation affect financial reporting? *Journal of Accounting and Economics, 49*(1-2), 58-74. https://doi.org/10.1016/j.jacceco.2009.07.002

Anton, S. G., & Afloarei Nucu, A. E. (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), 9. https://doi.org/10.3390/jrfm14010009

Arockiya Doolsiya Mary, A., & Prema, R. (2020). Impact of working capital management on profitability. *Journal of Critical Reviews, 7*(11), 789-793.

Babatunde, S. A., & Dandago, K. I. (2014). Internal control system deficiency and capital project mis-management in the Nigerian public sector. *Procedia-Social and Behavioral Sciences, 164*, 208-221. https://doi.org/10.1016/j.sbspro.2014.11.069

Bachtiar, F., Atmoko, A. D., & Bachtiar, D. I. (2023). Environmental impact analysis of external and internal businesses against the performance of small and medium enterprises. *International Journal of Economics, Business and Accounting Research, 7*(1), 164-172.

Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2014). Working capital management, corporate performance, and financial constraints. *Journal of Business Research, 67*(3), 332-338. https://doi.org/10.1016/j.jbusres.2013.01.016

Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2010). Working capital management in SMEs. *Accounting & Finance, 50*(3), 511-527. https://doi.org/10.1111/j.1467-629x.2009.00331.x

Brown, N. C., Pott, C., & Wömpener, A. (2014). The effect of internal control and risk management regulation on earnings quality: Evidence from Germany. *Journal of Accounting and Public Policy, 33*(1), 1-31.

Buisman, M., Haijema, R., & Bloemhof-Ruwaard, J. (2019). Discounting and dynamic shelf life to reduce fresh food waste at retailers. *International Journal of Production Economics, 209*, 274-284. https://doi.org/10.1016/j.ijpe.2017.07.016

Campello, M., & Gao, J. (2017). Customer concentration and loan contract terms. *Journal of Financial Economics, 123*(1), 108-136. https://doi.org/10.1016/j.jfineco.2016.03.010

Chen, H., & Huang, X. (2019). Internal control index of listed companies in China: Logic, construction, and validation. *Audit Research, 1*(1), 55-63.

Chen, H., Yang, D., Zhang, J. H., & Zhou, H. (2020). Internal controls, risk management, and cash holdings. *Journal of Corporate Finance, 64*, 101695. https://doi.org/10.1016/j.jcorpfin.2020.101695

Chen, J., & Xie, L. (2019). Industrial policy, structural transformation and economic growth: Evidence from China. *Frontiers of Business Research in China, 13*(1), 18. https://doi.org/10.1186/s11782-019-0065-y

Chen, X., & Liu, H. (2019). Internal control quality and executive overcompensation. *Audit Research, 5*, 86-94.

Dawood, M., ur Rehman, S., Majeed, U., & Idress, S. (2023). Contribution the effect of corporate governance on firm performance in Pakistan. *Review of Education, Administration & Law, 6*(1), 51-62. https://doi.org/10.47067/real.v6i1.304

Fernando, G. D., Jain, S. S., & Tripathy, A. (2020). This cloud has a silver lining: Gender diversity, managerial ability, and firm performance. *Journal of Business Research, 117*, 484-496. https://doi.org/10.1016/j.jbusres.2020.05.042

Gao, M. (2019). Analysis on the impact of operational working capital management efficiency on enterprise performance. *Modern Business Industry, 10*, 98-100.

Gao, M., & Cheng, K. (2017). Research on the influencing factors of working capital management performance of listed companies in the real estate industry. *Journal of Anhui University of Technology, 9*, 13-18.

Ge, W., Kim, J. B., & Kim, S. (2021). Internal control quality and firm performance: Evidence from the Korean market. *International Review of Financial Analysis, 75*, 101733.

Gosman, M., & Kelly, T. (2018). Working-capital efficiencies resulting from large retailers power. *Commercial Lending Review, 18*, 1-25.

Guo, J., & Li, X. (2019). Macroeconomic volatility, high-risk working capital, and corporate debt structure: Empirical evidence from listed manufacturing companies in China. *Science of Finance and Economics, 7*, 67-79.

Guo, L., & Xu, L. (2021). The effects of digital transformation on firm performance: Evidence from China's manufacturing sector. *Sustainability, 13*(22), 12844. https://doi.org/10.3390/su132212844

Hager, H. C. (1976). Cash management and the cash cycle. *Management Accounting, 9*(3), 19-21.

Hamed, A., & Babak, J. N. (2019). *A clear look at internal control: Theory and concept.* Unpublished MBA Research Paper. University of Nairobi.

Haron, R., & Nomran, N. M. (2019). Determinants of working capital management before, during, and after the global financial crisis of 2008: Evidence from Malaysia. *The Journal of Developing Areas, 50*(5), 461-468.

Hua, S. (2020). Excessive executive compensation, internal control, and working capital management performance. *Friends of Accounting, 20*, 52–59.

Huang, H., Wang, C., Wang, L., & Yarovaya, L. (2023). Corporate digital transformation and idiosyncratic risk: Based on corporate governance perspective. *Emerging Markets Review, 56*, 101045. https://doi.org/10.1016/j.ememar.2023.101045

Huang, J., Ling, Z., & Lu, R. (2023). Directors' and officers' liability insurance and digital transformation–the mediating role of explorative innovation. *Business Process Management Journal, 29*(1), 178-201. https://doi.org/10.1108/bpmj-08-2022-0419

Iqbal, A., & Hayat, M. (2020). Supplier firm and customer firm relationship on the performance of working capital management. *International Journal of Finance, Insurance and Risk Management, 10*(3), 53-65. https://doi.org/10.35808/ijfirm/221

Jiang, Y., Xue, X., & Xue, W. (2018). Proactive corporate environmental responsibility and financial performance: Evidence from Chinese energy enterprises. *Sustainability, 10*(4), 964. https://doi.org/10.3390/su10040964

Jiao, R., Wen, S., & Zhang, J. (2021). Research on the impact of corporate social responsibility on working capital management efficiency based on WSR: The moderating role of stakeholder cognition. *Management Review, 5*, 217-235.

Jiayao, Z., Sadiq, M., & Ling, T. W. (2023). The impact of corporate governance on the internal control objectives: Evidence from China's listed financial companies. *Cuadernos de Economía, 46*(131), 84-92.

Kao, M.-F., Hodgkinson, L., & Jaafar, A. (2019). Ownership structure, board of directors and firm performance: Evidence from Taiwan. *Corporate Governance: The International Journal of Business in Society, 19*(1), 189-216. https://doi.org/10.1108/cg-04-2018-0144

Kaplan, A., Gruffydd-Jones, K., van Gemert, F., Kirenga, B. J., & Medford, A. R. (2013). A woman with breathlessness: A practical approach to diagnosis and management. *Primary Care Respiratory Journal, 22*(4), 468-476.

Khidmat, W. B., Ayub Khan, M., & Ullah, H. (2020). The effect of board diversity on firm performance: Evidence from Chinese L isted companies. *Indian Journal of Corporate Governance, 13*(1), 9-33. https://doi.org/10.1177/0974686220923793

Klamm, B. K., Kobelsky, K. W., & Watson, M. W. (2012). Determinants of the persistence of internal control weaknesses. *Accounting Horizons, 26*(2), 307-333. https://doi.org/10.2308/acch-10266

Knight, W. (1972). Working capital management-satisificing versus optimization. *Financial Management, 1*(1), 33. https://doi.org/10.2307/3664948

Liao, S., Liu, M., & Chen, Q. (2022). Concentration of equity, dual role holding, and operating capital management performance: Evidence from listed companies in the retail industry. *Business Economic Research, 12*, 162-165.

Lin, B., & Liao, Y. (2022). Internal control, perceived environmental integrity, and organizational identification of internal audit managers: A study based on the JD-R theory perspective. *Nankai Management Review, 3*, 1-23.

Liu, H., & Huang, X. (2017). Internal control, market position, and quality of commercial credit capital operation. *Audit and Economic Research, 32*(3), 46-57.

Nawaz, T. (2021). The impact of working capital management and corporate governance on firm performance. *International Journal of Financial Studies, 9*(3), 1-16. https://doi.org/10.2308/accr.2009.84.4.1255

Nazir, M. S., & Afza, T. (2008). On the factor determining working capital requirements and the level of investment in current assets in manufacturing sector of Pakistan. *The Pakistan Development Review, 47*(4), 961-976.

Ngatno, Apriatni, E. P., & Youlianto, A. (2021). Moderating effects of corporate governance mechanism on the relation between capital structure and firm performance. *Cogent Business & Management, 8*(1), 1866822. https://doi.org/10.1080/23311975.2020.1866822

Pan, T., & Song, Y. (2017). *Research on internal control audit, internal control deficiency and audit fees.* Paper presented at the Second International Conference on Economic and Business Management (FEBM 2017) 455-460.

Prawitt, D. F., Smith, J. L., & Wood, D. A. (2009). Internal audit quality and earnings management. *The Accounting Review, 84*(4), 1255-1280.

Puni, A., & Anlesinya, A. (2020). Corporate governance mechanisms and firm performance in a developing country. *International Journal of Law and Management, 62*(2), 147-169. https://doi.org/10.1108/ijlma-03-2019-0076

Qiang, G., & Yang, X. (2021). Economic policy uncertainty and working capital financing decision. *Finance Theory and Teaching, 2*, 35-72.

Ran, M. (2018). Dynamic adjustment of product market competition and cash holdings. *Economics and Management Research, 8*(2), 88-95.

Sawarni, K. S., Narayanasamy, S., & Ayyalusamy, K. (2020). Working capital management, firm performance and nature of business: An empirical evidence from India. *International Journal of Productivity and Performance Management, 70*(1), 179-200.

Seth, H., Chadha, S., Sharma, S. K., & Ruparel, N. (2021). Exploring predictors of working capital management efficiency and their influence on firm performance: An integrated DEA-SEM approach. *Benchmarking: An International Journal, 28*(4), 1120-1145.

Shin, H.-H., & Soenen, H. L. (1998). Efficiency of working capital and corporate profitability. *Financial Practice and Education, 8*(2), 37-45.

Su, S. (2020). Assessing the control environment. *Internal Auditor, 21*, 177-181.

Subbarayudu, S. P., Naveena, P., & Ravikishore, S. (2020). A study on working capital with reference to Ultratech Cements Ltd in Anantapuramu District. *ACADEMICIA: An International Multidisciplinary Research Journal, 10*(3), 32-43. https://doi.org/10.5958/2249-7137.2020.00047.6

Suhud, A., & Wardhani, R. (2019). *The effect of internal control information disclosure on earnings management.* Paper presented at the 33rd International Business Information Management Association Conference: Education Excellence and Innovation Management through Vision 2020, IBIMA 2019 (pp. 9389-9398). International Business Information Management Association, IBIMA.

Sun, H. (2018). Research on the impact of board governance on corporate performance. *Jilin University of Finance and Economics, 2018*(3), 50-65.

Sun, L., & Wang, Z. (2017). Dynamic decision-making and influencing factors of working capital financing structure in enterprises. *Journal of Financial Research, 43*(6), 78-89.

Tang, X. (2017). Corporate governance, working capital management, and corporate performance. *Finance and Accounting Monthly, 28*, 29–32.

Tran, Q. T., Lam, T. T., & Luu, C. (2020). Corporate governance and earnings management: A study of Vietnamese listed banks. *The Journal of Asian Finance, Economics and Business, 7*(12), 389-395. https://doi.org/10.13106/jafeb.2020.vol7.no12.389

Wang, K. T., Wu, Y., & Ho, K.-Y. (2021). Internal control reporting and cost of bond financing: Evidence from China. *International Review of Economics & Finance, 76*, 1323-1346. https://doi.org/10.1016/j.iref.2019.11.016

Wang, Z. (2016). A survey on working capital management of Chinese listed companies. *Accounting Research*, *12*, 37–43.

Wen, X. (2021). The impact of supply chain stability and concentration on corporate working capital management. *Productivity Research*, *3*, 34–40.

William, B. (1966). *Working capital management*. Beijing: Higher Education Press.

Wolfe, C. J., Mauldin, E. G., & Diaz, M. C. (2009). Concede or deny: Do management persuasion tactics affect auditor evaluation of internal control deviations? *The Accounting Review*, *84*(6), 2013-2037. https://doi.org/10.2308/accr.2009.84.6.2013

Wu, L., & Zhou, Y. (2019). Management power, public welfare donations, and efficiency of operating capital management. *Journal of Nanjing Audit University*, *16*(5), 1-11.

Xie, H., & Liu, X. (2016). The impact of corporate governance on the performance of working capital management. *Finance and Accounting Monthly*, *2*, 25-29.

Xie, H., Liu, X., & Wang, X. (2016). Influence of internal control effectiveness on operating capital management. *Finance and Accounting Monthly*, *6*, 70-76.

Xie, Z., Wei, W., & Xu, B. (2017). Empirical study on factors influencing the effectiveness of internal control in enterprises. *Statistics and Decision*, *14*, 174-177.

Yu, M. (2023). CEO duality and firm performance: A systematic review and research agenda. *European Management Review*, *20*(2), 346-358.

Yusuf, M., & Kanji, L. (2020). Effect of internal audit and accounting information system on the effectiveness of internal control. *ATESTASI: Jurnal Ilmiah Akuntansi*, *3*(2), 120-125. https://doi.org/10.57178/atestasi.v3i2.222

Zhong, H. (2019). Market reform and dynamic adjustment of state-owned enterprises' cash holdings. *Economics and Management Research*, *2*, 95-102.