The Nexus Between Working Capital Management and Firm Performance: Leverage as a Moderator

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Abstract

This study seeks to investigate the impact of WCM on firm performance and the moderating role of leverage in this relationship. Employing a quantitative approach, the study analyzes secondary data from the annual reports of forty-two companies spanning the periods from 2018/19 to 2022/23. The methodology includes descriptive statistics, correlation analysis, unit root tests, and panel regression models to ensure a robust econometric evaluation. The findings indicate that higher liquidity, as reflected by the Current Ratio (CR), positively influences both ROA and ROE, while an efficient DSO significantly improves asset efficiency. Additionally, the research reveals that leverage moderates the relationship between DSO and ROA, suggesting that firms with elevated debt levels must prioritize rapid collection of receivables to mitigate liquidity risks. Conversely, DIO and DPO demonstrate a limited direct effect on firm performance within this sector. These results underscore the importance of tailored WCM strategies and offer valuable insights for policymakers aiming to develop supportive frameworks. Future research should consider broader samples, explore additional moderating variables, and incorporate qualitative methods to deepen the understanding of WCM dynamics in various contexts. This work contributes to both academic and professional literature by highlighting the essential role of effective WCM in enhancing firm performance, particularly in high-leverage environments..

Background of Study

Working capital management (WCM) is closely tied to a company's operational activities. Working capital (WC) is a company's operating liquidity, calculated as the difference between current assets and liabilities. The effective WCM seeks to avoid excessive investment in current assets while allowing a company to strike a fair balance between profitability and liquidity. As a result, implementing an effective WCM system is critical to increasing profitability and gaining a competitive advantage (Kaushik & Saini, 2020). Efficiency in WCM is essential for businesses whose main assets are current assets, mainly inventory and trade receivables (Sathyavathi & Elangovan, 2016). Maintaining appropriate liquidity in day-to-day operations to support the smooth operation of the business is crucial to WCM. To retain sufficient liquidity, a company must invest more in current than fixed assets (Kaur & Singh, 2017). However, there is a trade-off between risk and profit when the company decides how much to invest in current assets. The corporation minimises the risk of liquidity by investing more in current assets than losses in liquidity (Nazir, Khan, & Razzaq, 2016). Every organisation, whether for profit or not, regardless of size or sort of operation, requires a certain level of WC. As a result, WC can be viewed as the firm's lifeblood, and its efficient administration can ensure its success and sustainability (Mathuva, 2020). Several studies have identified how WCM impacts firm performance from various perspectives. Earlier research has shown that specific WCM parameters such as business size, leverage, and growth significantly impact firms' success. Mismanagement and incorrect use of WC have a detrimental impact on firm performance (Nazir, Khan, & Razzaq, 2016) investigated the relationship between firm performance and WCM in the manufacturing industry and discovered that inventory turnover, conversion cycle and average payment period have as inverse effect on firm performance. However, it was discovered that the average collecting period had a favourable and considerable impact on firm performance. Although there is much research on WCM, these studies have overlooked the moderating impact of ownership structure on the relationship between WCM and firm performance. To stay in business, any company must manage its WC effectively (Wang & He, 2020). With the real-world importance of WCM in mind, an investigation of the WCM of Sri Lankan food, beverage and tobacco firms is conducted.

Caballero, Teruel, and Solano (2012) emphasize that managers can create value by reducing accounts receivable and inventory days, while Waweru (2020) highlights that shortening the cash conversion cycle enhances firm performance. Despite the significance of working capital management (WCM), this topic has received limited attention from Sri Lankan researchers (Kaushik & Saini, 2020). Previous studies, such as Murugesu (2013), often combined disparate sectors like plantation firms, overlooking the varying WCM practices and requirements across industries. This research addresses these gaps by focusing exclusively on food, beverage, and tobacco companies listed on the Colombo Stock Exchange (CSE). These sectors were chosen because most existing studies have been conducted outside Sri Lanka, where differences in capital investment, company size, and market dynamics create a distinct business environment.

By narrowing the scope to CSE-listed companies in these sectors, the study aims to provide industry-specific insights into the impact of WCM strategies on profitability, liquidity, and overall performance within the unique context of Sri Lanka. Additionally, this research incorporates the moderating role of leverage, as explored by Perera (2021), to analyze the extent to which leverage influences the relationship between WCM and firm performance. The primary objective is to examine how WCM affects firm performance, with leverage serving as a moderating factor, thereby contributing to a deeper understanding of effective financial management practices in Sri Lanka's food, beverage, and tobacco industries.

Literature Review

To address the various requirements of working capital, various and conflicting theories have been established from the management and strategic literature. These include the Cash Conversion Cycle Theory, trade-off theory, pecking order theory, agency theory, and real options theory.

The cash conversion cycle (CCC) is a key financial metric that represents the time it takes for a company to convert its investments in inventory and other resources into cash flows from sales. It is a comprehensive measure of working capital efficiency and comprises three main components: Days Inventory Outstanding (DIO), Days Sales Outstanding (DSO), and Days Payable Outstanding (DPO). A shorter CCC typically indicates a more efficient working capital management system, as it shows the company is quickly converting resources into cash. Efficient management of the CCC can lead to increased profitability, as companies can use the freed-up cash to reinvest in operations or pay down debt (Baños-Caballero, García-Teruel, & Martínez-Solano, 2020).

Frank and Goyal (2020), Discussed the Trade-off model derived from its name, "Trade-off." The concept of cost and benefit consideration was introduced as soon as the suggestion for MM theorem relaxation (Khoa & Thai, 2021). Miller (1988), Believed that, while tax saving from interest expense benefited the borrowers, the foreseen risk of bankruptcy would offset the tax gain because of higher direct and indirect borrowing costs. Therefore, there would be an equilibrium at which the cost and a tax benefit of debt could cancel out each other, and value to equity investors would be the most significant (Myers, 1984).

According to Abubakar (2020), the company should finance as much as possible through the use of retained earnings and where external finance is used because managers have identified positive NPV investments that cannot be financed with retained earnings, issue debt until debt capacity is reached and only then, if positive NPV projects still remain to be financed, issue equity. The pecking order theory forecasts that high-growth firms with large financing necessities end up with high debt ratios because of managers' reluctance to issue equity. However, the findings of Smith and Watts (1992), contradict this prediction as they found out that high-growth firms use less debt in their capital structure.

Jensen and Meckling (1976), Developed this theory to examine the conflict of interest that exists between shareholders (principals) and agents (decision-makers). Agency cost, therefore, arises from the conflict of interest that exists between principal and agent (Ahmad, Abdullah, & Roslan, 2012). The theory opines that capital structure that is optimal is achieved at the point where the benefit accruing to debt financing offsets the agency cost of borrowing or debt financing (Brendea, 2019). However, this theory was criticized in that it only described the processes of the behaviour of human beings and does not reflect the overall motivation behind the behaviour of different people (Baumuller, 2007).

Shaik (2021) suggested that the working capital governs the profitability of the companies. Ali and Alam (2021) revealed that there are positive and perfect relationships between revenue and profitability while negativity is between investment and profitability in Arabian Country. But Aljaaidi and Hassan (2020), Studied and found that the size of the board is positively associated with firm performance. Further, they demonstrated that in the context of Saudi Arabia, board meetings, firm size, and firm leverage are inversely correlated with firm performance. However, Wang (2020), showed a negative correlation between working capital and firm performance. Nevertheless, this relationship changes as a corporation progresses through its life cycle. At each step of the firm's life cycle, they recommended adopting tailored working capital management practices to achieve sustainable financial performance. Further, Ali and Faisal (2020), studied that the gross profitability of petrochemical companies is notably different and also governs the other measures of financial performance. Further, he observed a decrease in the financial performance of petrochemical companies in Saudi Arabia due to the operational performance of companies. Similarly, another study by Ali and Faisal (2020), examined the capital structure and financial performance of the Saudi Arabian Petrochemical industry. They found a significant relationship between the two. Garg and Meentu (2022), Reported a significant negative relationship between the components of WCM and profitability for Bombay Stock Exchange. Kamlesh, Sivasankaran, Pransenjit and Giridhar's (2023), findings show that a shorter net working capital cycle creates higher market value. Even though Hajisaaid (2020), Studied how Saudi Arabian basic materials companies' profitability was affected by their financial structure. He found that the profitability of Saudi Arabia's basic commodities industry and the proportion of short-term debt to total assets were negatively correlated. Kasmir (2014), stated that leverage is a solvency or leverage ratio used to measure the extent to which a company's activity is financed with debt. It is in line with what was expressed by Kasmir (2014). This understanding of leverage is reaffirmed by Akbar and Fahmi (2020), who stated that leverage is The leverage ratio is a measure of how much the company is financed with debt. The use of debt that is too high will endanger the company because the company will fall into the category of extreme leverage, namely the company is trapped in a high level of debt and it is hard to release the debt burden. Studies on firm performance in general and the impact of working capital management, in particular, are concentrated in the developed world and large emerging economies. A review of the previous literature indicated that developing regions have received little attention regarding the working capital management on firm performance of companies.

This has resulted in a significant gap between foundation theories and practical applicability. As a result, the present study is trying to fill the existing gap.

Methodology
Population and Sample

The sector's population is 45 companies, which includes all the food, beverage, and tobacco companies under CSE. 42 listed companies based on the data availability required to run the analysis from 2018/19-2022/23 because three companies did not have adequate information to run the research.

Conceptual Framework
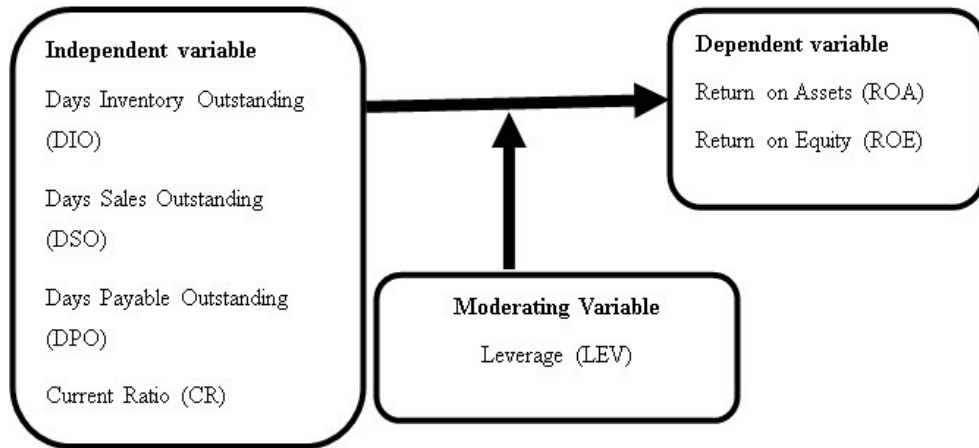
Key Concept	Variable	Indicators	Measurement	Source
Working Capital Management		Days Inventory Outstanding	DIO=(Average Inventory/COGS)*365 Days	(Brigham & Ehrhardt, 2016)
	Cash conversion cycle	Days Sales Outstanding	DSO=(Average Account Receivables/ Revenue)*365 Days	(Brigham & Ehrhardt, 2016)
		Days Payable Outstanding	DPO=(Average Account Payables/COGS) *365 Days CCC= (DIO+DSO)-DPO	(Brigham & Ehrhardt, 2016)
	Liquidity	Current ratio	CR=Current Assets/ Current Liabilities	(Smith, 2020)

Key Concept	Variable	Indicators	Measurement	Source
Firm Performance	Return on Assets	Return on asset Ratio	ROA=Net Profit/ Total Assets	(Johnson, 2021)
	Return on Equity	Return on Equity ratio	ROE=Net Income/ Shareholders Equity	(Turner, 2020)
Leverage	Leverage	Debt to Equity Ratio	LEV=Total Debt / Total Equity	(Miller & Modigliani, 2018)

Operationalization

Table 01 : Measurement of variables

Hypothesis

H_1: Working capital management significantly impacts firm performance when leverage plays a moderating role

Data Analysis

Correlation Analysis

Table 2 Correlation Analysis

Correlation Probability	DIO	DPO	DSO	CR	LEV
ROA	-0.0329	-0.0735	-0.0990	0.2971	-0.0220
	0.6354	0.2890	0.1528	0.0000**	0.7504
ROE	-0.1021	-0.1660	-0.0068	0.2648	-0.0450
	0.1405	0.0160	0.9216	0.0001**	0.5159

A positive correlation of 0.2971 between CR and ROA implies that firms with higher current ratios tend to return on assets, indicating that higher liquidity enhances asset profitability.

And other independent variables such as DIO, DPO and DSO have not shown a significant relationship between ROA. ROE shows a significant negative correlation with DPO and a negative relationship between CR. Further, other independent variables like DIO and DSO have not shown any relationship with ROE. At the same time, leverage also has not significantly correlated with ROA and ROE

Unit Root Analysis

Table 3 Unit root analysis

Variables	Level		First difference	
	t-stat	Prob.	t-stat	Prob
CR	84.0759	0.4771	193.627	0.0000**
DIO	113.433	0.0179**	127.650	0.0015**
DSO	76.6140	0.7039	185.034	0.0000**
DPO	109.128	0.0341**	157.345	0.0000**
LEV	136.778	0.0002**	235.618	0.0000**
ROA	93.7548	0.2188	198.492	0.0000**
ROE	61.3025	0.9704	156.693	0.0000**

The results imply that time-series data for these variables may have trends or other characteristics that are not stationary, which can distort regression results if not properly accounted for. After taking the first differences, the stationarity of these variables supports the suitability of the data for econometric modelling, ensuring that relationships between the variables are not spurious.

Pooled Least Square (PLS) Random Effect & Fixed

Table 4 PLS, Random Effect and Fixed Effect

ROA	PLS		Random		Fixed	
Variable	Coefficient	Prob	Coefficient	Prob	Coefficient	Prob
C	0.074790	0.0001**	0.049584	0.0405**	0.039616	0.1437
CR	0.021467	0.0001**	0.020995	0.0000**	0.020937	0.0007**
DIO	-6.83E-05	0.8086	0.000178	0.4474	0.000123	0.6549

ROA	PLS		Random		Fixed	
Variable	Coefficient	Prob	Coefficient	Prob	Coefficient	Prob
DPO	-0.000283	0.2656	0.000198	0.4619	0.000623	0.0803
DSO	-0.000777	0.0105**	-0.001035	0.0040**	-0.001390	0.0065**
CR_LEV	0.016383	0.0028**	0.007114	0.0559	0.007524	0.0766
DIO_LEV	-0.000204	0.0535	-2.22E-05	0.7537	-0.000163	0.3632
DPO_LEV	3.16E-05	0.1369	8.38E-06	0.5402	-5.17E-06	0.7677
DSO_LEV	-9.74E-05	0.0840	-8.77E-05	0.0091**	-9.85E-05	0.0077**
R-squared	0.180378		0.159657		0.781621	
Adjusted R-squared	0.147756		0.126211		0.712949	
F-statistic	5.529361		4.773516		11.38185	
Prob(F-statistic)	0.000003**		0.000022**		0.000000**	

** P- value is significant at the .05 level

Table 3 illustrates three models: pooled, random, and fixed effects. In the pooled effects model.

Hausman Test

Test Summary	Chi-Sq.Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	46.215757	9	0.0000**

** P- value is significant at the .05 level

According to Hausman, (1978), a statistical technique called the Hausman test is used to assess whether a fixed effects model or a random effects model is more appropriate for panel data analysis.

H0: The random effect model is more appropriate

H1: Fixed effect model is more appropriate

If the p value is less than 0.05 significant level, the null hypothesis is rejected. Therefore table 4.20 shows **p-value** is **less than 0.05,** The **Fixed Effects Model** is preferred over the Random Effects Model, as the test does not provide strong evidence against the assumptions of the Random Effects Model.

F-Test
Table 6 F-Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.202972	(41.159)	0.0000**
Cross-section Chi-square	255.324350	41	0.0000**

** P- value is significant at the .05 level

Greene, (2003) explains the detailed application of panel data econometrics and how to interpret the results when deciding between a fixed effects model and a pooled least squares model.

H0: Pooled Least Squares model is more appropriate

H1: Fixed effect model is more appropriate

The null hypothesis is rejected when the p-value is less than 0.05 significance level. Based on this, the researcher can reject the null hypothesis, because the P value is less than 0.05. If the null hypothesis is rejected, it suggests that the Fixed Effects Model is more appropriate. The fixed effects model analysis assessing the ROA while considering moderating effects reveals key insights into how various factors influence financial performance. The CR is positively associated with ROA, presenting a coefficient of 0.020937 and a significant p-value of 0.0007. This suggests that improved liquidity contributes positively to ROA. DSO coefficient of -0.001390 is significant (p-value = 0.0065), indicating that longer collection periods negatively impact ROA, highlighting the importance of efficient receivables management. DIO shows a coefficient of 0.000123 and is not statistically significant (p-value = 0.6549), indicating it does not significantly impact ROA. Meanwhile, DPO has a coefficient of 0.000623 with a p-value of 0.0803

Moreover, when considering the moderating effects. DSO_LEV (-9.85E-05, p-value = 0.0077), indicate that leverage has a moderating influence on the relationship between the corresponding variables and ROA. In particular, the negative impact of DSO becomes more pronounced with higher leverage levels. Furthermore, leverage has not shown any significant moderating effect on other independent variables.

The overall model shows an R-squared value of 0.781621, suggesting that approximately 78.16%of the variation in ROA is explained by the independent variables included in the model. The Adjusted R-squared of 0.712949 reflects a good fit, accounting for the number of predictors. The significant F-statistic of 11.38185 (p-value = 0.000000) indicates that the model as a whole is statistically significant.

PLS, Random Effect and Fixed Effect

Table 7 PLS, Ransom Effect and Fixed Effect

ROE	PLS		Random		Fixed	
Variable	Coefficient	Prob	Coefficient	Prob	Coefficient	Prob
C	1.605129	0.0000**	0.935308	0.0497**	0.592915	0.2567
CR	0.352934	0.0007**	0.444134	0.0000**	0.513653	0.0000**
DIO	-0.004088	0.4509	0.001462	0.7478	5.78E-05	0.9913
DPO	-0.010263	0.0366**	0.000567	0.9139	0.010220	0.1368
DSO	-0.005333	0.3574	-0.014063	0.0447**	-0.022154	0.0244**
CR_LEV	0.237504	0.0234**	0.080652	0.2607	0.088926	0.2773
DIO_LEV	-0.004086	0.0445**	-0.001006	0.4622	-0.002898	0.4029
DPO_LEV	0.000642	0.1165	0.000152	0.5640	-3.20E-05	0.9244
DSO_LEV	-0.000470	0.6634	-0.000382	0.5529	-0.000515	0.4658
R-squared		0.142058		0.113425		0.781621
Adjusted R-squared		0.107911		0.078138		0.712949
F-statistic		4.160199		3.214387		11.38185
Prob(F-statistic)		0.000127**		0.001849**		0.000000**

** P- value is significant at the .05 level

Table 7 illustrates the analysis of the Pooled Least Squares (PLS), Random Effects, and Fixed Effects models and offers important insights into how working capital management affects ROE while considering leverage as a moderating factor.

Hausman Test

Table 8 Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	32.492142	9	0.0002**

** P- value is significant at the .05 level

According to Hausman (1978), the Hausman test is used to identify whether a fixed effects model or a random effects model is more appropriate for panel data analysis.

> H0: Random effect model is more appropriate

> H1: Fixed effect model is more appropriate

If the p-value is less than 0.05 significant level, the null hypothesis is rejected. Therefore table 4.24 shows p-value = 0.0002 is less than 0.05, The Fixed Effects Model is preferred over the Random Effects Model.

F-Test

Table 9 F-Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.449507	(41,159)	0.0000**
Cross-section Chi-square	259.245333	41	0.0000**

** P- value is significant at the .05 level

Greene, (2003) explains how to interpret the results when deciding between a fixed effects model and a pooled least squares model.

> H0: Pooled Least Squares model is more appropriate

> H1: Fixed effect model is more appropriate

The null hypothesis is rejected when the p-value is less than 0.05 significance level. Based on this, the researcher can reject the null hypothesis, because the P value is less than 0.05. If the null hypothesis is rejected, it suggests that the Fixed Effects Model is more appropriate. The fixed effects model analysis of ROE while incorporating moderating effects presents several insights regarding the relationship between various financial metrics and ROE.

CR shows a robust positive relationship with ROE, with a coefficient of 0.513653 and a highly significant p-value of 0.0000. This suggests that higher liquidity, as measured by the current ratio, significantly enhances ROE. In contrast, DSO has a coefficient of -0.22154, which is negatively significant with a p-value of 0.0244. This finding suggests that longer collection periods negatively affect ROE, emphasizing the importance of efficient receivables management. DIO presents a coefficient of 5.78E-05, with a p-value of 0.9913, indicating that it does not significantly impact ROE and the coefficient for DPO is 0.010220, with a p-value of 0.1368, suggesting an insignificant influence on ROE. Regarding the moderating effects of leverage, variables like CR_LEV (coefficient of 0.088926, p-value = 0.2773), DIO_LEV (coefficient of - 0.002898, p-value = 0.4029), DPO_LEV (coefficient of -3.20E-05, p-value = 0.9244) and DSO_LEV (coefficient of -0.000515, p-value = 0.4658) are not statistically significant, suggesting that leverage does not significantly affect how these variables influence ROE. The model reports an R-squared value of 0.768985, indicating that approximately 76.90% of the variation in ROE can be explained by the independent variables included.

The Adjusted R- squared of 0.696339 further supports the model's explanatory power while accounting for the number of predictors. The significant F-statistic of 10.58533 (p-value <0.05) confirms that the model as a whole is statistically significant.

In summary, the analysis reveals that liquidity, as indicated by the current ratio, positively impacts ROE, while other independent variables have not shown any significance on ROE However, leverage does not appear to significantly moderate the relationships between these financial metrics and ROE.

Discussion

The majority of variables, such as DIO, DPO, LEV, and ROA, are stationary at the initial difference, according to the results of the unit root test, guaranteeing sound economic modelling (Gimmj & Bert, 1993). According to Brigham and Ehrhardt (2016), CR and DSO are non-stationary at levels but become stationary at the first difference. Across pooled, random, and fixed effects models, regression analysis with moderating effects shows that CR has a favourable impact on ROA. The Hausman test-favored fixed effects model demonstrates that DSO continues to have a negative effect on ROA while CR is still a substantial positive predictor of ROA (Hargrave, 2019). Leverage mitigates the detrimental effect of DSO on ROA, as indicated by the substantial interaction term DSO_LEV. According to the fixed effects model, DSO has a negative effect on ROE whereas CR is a substantial positive predictor (Hargrave, 2019). Leverage does not appear to significantly modify the link between working capital components and ROE, as indicated by the non-significant interaction terms (Fabozzi & Peterson, 2003).

In conclusion, the analysis shows that while extended collection times have a negative impact on ROA and ROE, liquidity, as determined by the current ratio, has a positive impact on both (Kaur & Singh, 2017; Mahardhika & Marvun, 2016). Although it has no discernible effect on the relationship between other working capital components and firm performance, leverage moderates the relationship between DSO and ROA (Wang & He, 2020). The significance of effective working capital management and the contribution of leverage to increased business profitability are underscored by these findings (Nazir, Khan, & Razzaq, 2016; Sharma & Kumar, 2021).

Conclusion

This study examines the effects of DIO, DSO, DPO, and CR on firm performance indicators ROA and ROE, with LEV acting as a moderating factor. It expands the theoretical framework of WCM. Previous studies, such as the Cash Conversion Cycle Theory (Richards & Laughlin, 1980), indicate that shorter cash cycles boost profitability and liquidity, which in turn improves company performance (Baños-Caballero, García-Teruel, & Martínez-Solano, 2020). This study supports and builds upon these conclusions by demonstrating the beneficial effects of effective liquidity and receivables management on profitability. For example, ROA and ROE were significantly impacted by CR and DSO, showing that companies with high liquidity and quick collections are better positioned for higher asset and equity returns.

This finding is consistent with that of Shaik (2021), who discovered a favourable correlation between profitability and liquidity management in Saudi companies. The study's identification of leverage as a key mediator in the DSO-ROA relationship is one of its most innovative contributions. This supports and improves the Trade-Off Theory by demonstrating that, although leverage can result in tax advantages, it also calls for strict receivables management (Frank & Goyal, 2020). Our results imply that greater debt levels make profitability more sensitive to effective receivables collection, which is consistent with Subramaniam and Masri (2018). This emphasises how important it is for companies with high levels of borrowing to prioritise prompt collections to prevent possible liquidity problems and drops in profitability. Furthermore, only DSO exhibited the moderating effect of leverage, indicating that it is a particularly sensitive WCM component at high debt levels, but DIO and DPO did not exhibit any discernible direct effects on profitability. This subtlety emphasises the necessity of improving existing WCM models to account for these disparate effects on different WCM components (Kiptoo, 2017).

The significance of effective receivables management is another important lesson for finance managers in highly leveraged companies. Leverage's moderating influence on the DSO-ROA relationship suggests that companies with high debt levels should reduce their receivables cycle to prevent cash flow problems. Effective receivables collection techniques such as enhanced credit criteria and follow-up procedures are essential to reducing the risks associated with leverage. Goel (2021) highlighted receivables management as essential to profitability in high-debt companies, particularly those in emerging economies where cash flows can be more erratic. This suggestion is in line with his findings. Interestingly, this analysis discovered that ROA and ROE in this industry are only marginally impacted by DIO and DPO. According to this, inventory and payables management may not always result in increased profitability for Sri Lankan businesses, which runs counter to the conclusions of Cristea & Cristea (2018). To enhance performance results, managers should prioritise managing liquidity and receivables over inventory and payable cycles. According to Sharma and Kumar (2021), the effect of inventory management on profitability may vary depending on the business. They advise managers to assess the relative significance of WCM components according to their operational context. This insight further supports their argument. This study emphasises the necessity for supportive frameworks that promote efficient WCM practices for policymakers. Effective WCM rules could improve business sustainability and lower financial risks in emerging economies, especially regarding liquidity management and leverage (Nazir, Khan, & Razzaq, 2016). According to Mathuva (2020), this study's conclusions imply that regulatory agencies in Sri Lanka may want to think about enacting laws that standardise WCM processes to increase corporate resilience, particularly in times of economic crisis.

References

Abosede, A. J. (2012). Pecking order theory of capital structure: another way to look at it. *Journal of Business Management and Applied Economics, 5*(2), 5-15.

Abubakar, A. (2020). Financial leverage and financial performance of oil and gas companies in Nigeria. *Open Journal of Management Science, 1*(1), 28-44.

Acaravci, S. K. (2015). The determinants of capital structure: evidence from the Turkish manufacturing sector. *International Journal of Economics and Financial Issues, 5*(1), 158-171.

Adusei, C., & Dacosta, L. (2016). Testing the pecking order theory of capital structure in FTSE 350 food producer firms in United Kingdom between 2001 and 2005. *Expert Journal of Finance, 4*(1), 8-11.

Ahmad, Z., Abdullah, N. M., & Roslan, S. (2012). Capital structure effect on firms performance: Focusing on consumers and industrials sectors on Malaysian firms. *International Review of Business Research Papers, 8*(5), 137-155.

Akbar, F., & Fahmi, I. (2020). Pengaruh Ukuran Perusahaan, Profitabilities Dan Likuiditas Terhadap Kebijakan Dividend Dan Nilai Perusahaan Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia. *Jurnal Ilmiah Mahasiswa Ekonomi Manajemen, 5*(1), 62-81.

Akinwale, Y. O. (2018). An empirical analysis of short run and long run relationships between energy consumption, technology innovation and economic growth in Saudi Arabia. *International Journal of Energy Economics and Policy, 8*(4), 139-146.

Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. *Journal of Corporate Finance, 30*(1), 98-113.

Ali, A., & Alam, M. (2021). Profitability of energy sector companies of Saudi Arabia: Mutual analysis based on revenue and investment. *Journal of Accounting, 7*(3), 601-608.

Ali, A., & Faisal, S. (2020). Capital structure and financial performance: A case of Saudi petrochemical industry. *The Journal of Asian Finance, Economics and Business, 7*(7), 105-112.

Ali, A., & Theeb, E. A. (2018). Financial performance of petrochemicals industry in Saudi Arabia: Pre and post global economic recession. *International Journal of Management Studies, 4*(8), 21-29.

Aljaaidi, K. S., & Hassan, W. K. (2020). Energy industry performance in Saudi Arabia. *International Journal of Energy Economics and Policy, 10*(4), 271-277.

Almomani, T. M. (2021). The relationship between working capital management and financial performance: Evidence from Jordan. *The Journal of Asian Finance, Economics and Business, 8*(6), 713-720.

Alsharif, H. Z., & Tong, W. (2023). Working capital and financial performance in the energy sector of Saudi Arabia: Moderating role of leverage. *International Journal of Energy Economics and Policy, 13*(3), 158-163.

Alsulayhim, N. (2019). Thhe relationship between working capital management and profitability. *Alsulayhim, 8*(3), 445-456.

Aminu, Y., & Zainudin, N. (2016). A review of anatomy of working capital management theories and the relevant linkages to working capital components: A theoretical building approach. *European Journal of Business and Management, 8*(2), 10-18.

Aoki, M., Patrick, H., & Sheard, P. (1994). The Japanese main bank system: an analytical and development view. *World Bank, 5*(1), 54-57.

Arunkumar, O., & Ramanan, T. (2021). Working capital management and firm performance: Empirical evidence from India. *Journal of Financial Management, 19*(2), 45-58.

Asaduzzaman, M., & Chowdhury, T. (2017). Working capital management and profitability: Evidence from manufacturing firms in Bangladesh. *Global Journal of Management and Business Research.*

Baños-Caballero, S., García-Teruel, P., & Martínez-Solano, P. (2020). Net operating working capital and firm value: A cross-country analysis. *International Review of Financial Analysis, 67*, 101423.

Barakat, A. (2014). The impact of financial structure, financial leverage and profitability on industrial companies shares value : Applied study on a sample of Saudi industrial companies. *Research Journal of Finance and Accounting, 5*(1), 55-66.

Basyith, A., Djazuli, A., Fauzi, F., & Review, F. (2021). Does working capital management affect profitability? Empirical evidence from Indonesia-listed firms. *Asian Economic and Financial Review, 11*(3), 236-251. Retrieved from https://doi.org/10.18488/journal.aefr.2021.113.236.251

Blanco-Mazagatos, V., Quevedo-Puente, E., & Delgado-Garcia, J. B. (2016). How agency conflict between family managers and family owners affects performance in wholly family-owned firms: A generational perspective. *Journal of Family Business Strategy, 7*(3), 167-177.

Brenda, G. (2019). Herding behaviour and financing decisions in Romania. *Managerial Finance, 45*(6), 716-725.

Breusch, T. S., & Pagan, A. R. (1980). The Lagrange Multiplier Test and its Applications to model specification in Econometrics. *The Review of Economic Studies, 47*(1), 239-253.

Brigham, E. F., & Ehrhardt, M. C. (2016). *Financial Management* (15th ed.). Cengage Learning.

Caballero, S. B., Teruel, P. J., & Solano, P. M. (2012). How does working capital management affect the profitability of Spanish SMEs? *Small business economics*, 517-529.

Chen, L., & Zhao, X. (2004). The modified pecking order theory: new empirical evidence from corporate financing decisions. *Unpublished working paper,Michigan State University, 5*(1), 141-145.

Cristea, C., & Cristea, M. (2018). Cash conversion cycle and corporate performance: evidence from Romania. 184.

Csapi, V. (2013). Applying real options theory in the electrical energy sector. *Public Finance Quarterly, 58*(4), 469-483.

Davis, J. H. (1997). Determinants of governance structure among companies: A test of agency theory predictions. *International Journal of Management, 24*(3), 454.

Eisenhardt, K. M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal, 32*(3), 543-576.

Ezeoha , A. (2018). Firm age, size and profitability dynamics: A test of learning-by-doing and structural inertia hypotheses. *Business and Economic Review, 34*(1), 29-50.

Fabozzi, F., & Peterson, P. (2003). Financial management and analysis. *John Wiley and Sons, 8*(1), 25-29.

Fayezi, S., O'Loughlin, A., & Zutshi, A. (2012). Agency theory and supply chain management: a structured literature review. *Supply chain management: An International Journal, 17*(5), 556-570.

Fleisher, C. S. (1991). Using an agency-based approach to analyze collaborative federated inter organizational relationships. *The Journal of Applied Behavioural Science, 27*(1), 116-130.

Frank, M. Z., & Goyal, V. K. (2020). The pecking order theory of capital structure: where do we stand? *Oxford Research Encyclopedia of Economics and Finance, 3*(1), 45-49.

Garcia-Teruel, P. J., & Martinez-Solano, P. (2017). Effects of working capital management on SME profitability. *International Journal of Small Business and Enterprise Development, 22*(3), 452-468.

Garg, M., & Meentu. (2022). Components of working capital management and firm profitability. *Journal of Applied Finance, 28*(2), 34-46.

Gentry, J. A., Vaidyanathan, R., & Lee, H. W. (1990). A Weighted Cash Conversion Cycle. *Financial Management, 19*(1), 90-99. Retrieved from https://doi.org/10.2307/3666040

Gimmj, D., & Bert, S. (1993). Cash conversion cycle and firm size: a study of retail firms. *Managerial Finance, 19*(8), 25-34.

Goel, U. (2021). Managing working capital for performance: A study of select Indian companies. *Journal of Business Finance & Accounting, 48*(5), 743-760.

Griffin, J. M. (2002). Are the Fama and French factors global or country-specific? *The Review of Financial Studies, 15*(3), 783-803.

Gupta, A., & Gupta, V. (2022). Impact of working capital management on firm performance: Evidence from India. *Global Business Review, 23*(1), 69-88.

Hajisaaid, A. M. (2020). The effect of capital structure on profitability of basic materials Saudi Arabia firms. *Journal of Mathematical Finance, 10*(4), 631-647.

Hamdan, A. M. (2017). The moderating role of corporate governance on the relationship between intellectual capital efficiency and firm's performance: Evidence from Saudi Arabia. *International Journal of Learning and Intellectual Capital, 14*(4), 295-318.

Hargrave, M. (2019). Weighted average cost of capital. *Corporate finance and accounting, 12*(3), 24-29.

Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica, 46*(6), 1251-1271.

Hovakimian, A., & Tehranian, H. (2004). Determinants of target capital structure: The case of dual debt and equity issues. *Journal of Financial Economics, 71*(3), 517-540.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *corporate governance, 5*(1), 77-132.

Johnson, L. (2021). Evaluating company performance:a focus on return on assets. *International Journal of Finance, 38*(2), 101-115.

Kamlesh, K., Sivasankaran, N., Pransenjit, C., & Giridhar, R. (2023). Working capital management efficiency, cash holdings, and market value of Indian listed firms. *International Journal of Business and Economics, 23*, 53-83.

Kasmir, S. (2014). The Saturn automobile plant and the long dispossession of US auto workers. *Journal of Blood and Fire, 5*(2), 203-249.

Kaur, R., & Singh, P. (2017). Working capital management and profitability: Evidence from Indian manufacturing firms. *Journal of Advances in Management Research, 14*(3), 301-317.

Kaushik , N., & Saini, P. (2020). Impact of working capital management on profitability and firm value: A study of Indian firms . *Asian Journal of Economics, Finance and Management, 9*(2), 12-25.

Kayani, U. N., De Silva, T., & Gan, C. (2019b). Working capital management and firm performance relationship: an empirical investigation of Australian firms. *Review of Pacific Basin Financial Markets and Policies, 23*(3), 1-23.

Khan, A. R. (2021). Socioeconomic impacts of domestic biogas plants on rural house holds to strengthen energy security. *Environmental Science and Pollution Research, 28*(2), 27446-27456.

Khoa, B. T., & Thai, D. T. (2021). Capital structure and trade-off theory: evidence from Vietnam. *The Journal of Asian Finance, Economics and Business, 8*(1), 45-52.

Khondaker, A. N. (2015). Dynamics of energy sector and GHG emissions in Saudi Arabia. *Climate Policy, 15*(4), 517-541.

Kiptoo, I. K. (2017). Working capital management practices and financial perfor mance of tea processing firms in Kenya. *University of Embu, 5*(3), 43-47.

Kogut, B., & Kulatilaka, N. (2001). Capabilities as real options. *Organization Science, 12*(6), 744-758.

Lai, W., & Wu, C. (2021). The role of current ratio in predicting corporate financial distress: Evidence from Chinese listed companies. *Emerging Markets Finance & Trade, 57*(1), 206-223.

Lane, P. J., Cannella, A. A., & Lubatkin, M. H. (1998). Agency problems as anteced ents to unrelated mergers and diversification: Amihud and Lev reconsidered. *Strategic Management Journal, 19*(6), 555-578.

Lee, J. E., & Krishnan, J. (2009). Audit committee financial expertise,litigation risk,and corporate governance. *A journal of practice & theory, 28*(1), 241-261.

Lele, U. (2016). Impact of oil prices on revenue growth and profitability of Saudhi listed companies in non-financial sectors. *International Journal of Management, Information Technology and Engineering, 4*(6), 13-20.

Mahardhika, & Marvun. (2016). Pengaruh current ratio dan bebt to equity ratio terha vap a return on asset. *Widyakala, 3*, 23-28.

Maksimov, V., Wang, S. L., & Luo, Y. (2017). Reducing poverty in the least developed countries: The role of small and medium enterprises. *Journal of World Business, 52*(2), 244-257.

Maritan, C. A., & Alessandri, T. M. (2007). Capabilities, real options, and the resource allocation process. *Real option theory*, 307-332.

Mathuva, D. (2020). An analysis of the determinants of working capital management in manufacturing firms in emerging markets. *International Journal of Managerial Finance, 16*(2), 135-154.

Miller, M. H. (1988). The Modigliani-Miller Propositions after Thirty Years. *Journal of Economic Perspectives, 2*(4), 99-120.

Mohamad, Z., & Saad, N. (2022). Working capital management and profitability: Evi dence from the Malaysian context. *Journal of International Finance and Accounting, 14*(3), 34-48.

Murugesu, T. (2013). Effect of cash conversion cycle on profitability: listed plantation. *Research Journal of Finance and Accounting, 14*(18), 132-137.

Myers, S. C. (1984). Capital Structure. *National Bureau of Economic Research, 8*(1), 44-51.

Nazir, M. I., Khan, M. A., & Razzaq, S. (2016). The impact of working capital management on firms financial performance: evidence from Pakistan. *International Journal of Financial Management, 5*(1), 23-24.

Nirajini, A., & Priya, K. B. (2013). Impact of capital structure on financial performance of the listed trading companies in Sri Lanka. *International Journal of Scientific and Research Publications, 3*(5), 1-9.

Niresh, J. A. (2012). Working capital management & financial performance of manufacturing sector in Sri Lanka. *European Journal of Business and Management, 4*(15), 23-30.

Perera, S. (2021). Working capital management and firm performance: A study of listed companies in Sri Lanka. *South Asian Journal of Business and Management Cases, 10*(1), 45-46.

Shaik, A. R. (2021). Components of working capital and profitability in Saudi Arabian companies. *Investment Management and Financial Innovations, 18*(3), 52-62.

Sharma, D., & Kumar, V. (2021). The relationship between working capital management and firm profitability: An empirical investigation. *Journal of Financial Management and Analysis*, 105-121.

Sheikh, N. A. (2016). Impact of working capital on the performance of textile firms listed on PSX. *Pakistan Journal of Social Sciences, 36*(1), 409-419.

Singh, H., & Kumar , S. (2017). Impact of working capital management on firm profitability: Empirical evidence from India. *Asian Economic and Financial Review, 7*(10), 1065-1082.

Smit, H. T., & Trigeorgis, L. (2004). Strategic investment: Real options and games. *Princeton University Journal, 5*(1), 136-138.

Smith, C. W., & Watts, R. L. (1992). The investment opportunity set and corporate financing,dividend,and compensation policies. *Journal of Financial Economics, 32*(3), 263-292.

Smith, J. (2020). An analysis of liquidity ratios: understanding the current ratio. *Journal of Financial Analysis, 45*(3), 123-134. Retrieved from https://doi.org/10.1234/jfa.2020.45.3.123

Steinberg, S. (2010). Impact of adherence to interferons in the treatment of multiple sclerosis: A non-experimental, retrospective, cohort study. *Clinical drug investigation, 30*, 89-100.

Stock, J. H. (1997). The NAIRU, unemployment and monetary policy. *Journal of Eco nomic Perspectives, 11*(1), 33-49.

Subramaniam, J., & Masri, M. (2018). Working capital management, ownership struc ture, and firm performance: Evidence from Malaysia. *International Journal of Economics and Financial Issues, 8*(4), 236-243.

Tanveer, B. (2016). The impact of working capital management on firms financial per formance: evidence from Pakistan. *International Journal of Economics and Financial Issues, 6*(3), 1097-1105.

Tsuruta, D. (2019). Working capital management during the global finance crisis: evi dence from Japan. *Japan and the World Economy, 49*(C), 206-219.

Turner, R. (2020). Analyzing corporate profitability: the significance of return on equi ty. *Journal of Business Finance, 45*(4), 250-265.

Uyar, A. (2009). The relationship of cash conversion cycle with firm size and profita bility: an empirical investigation in Turkey. *International Research Journal of Fi nance and Economics, 24*(1), 14-23.

Velnampy, T. D., & Niresh, J. A. (2012). The relationship between capital structure and profitability. *International Journal of Finance, 8*(1), 47-51.

Wang, Y., & He, L. (2020). The role of working capital management in enhancing firm performance: Evidence from listed companies in China. *Journal of Asian Fi nance, Economics and Business*, 29-41.

Wang, Z. (2020). The interplay between working capital management and a firm's fi nancial performance across the corporate life cycle. *Sustainability, 12*(4), 1661.

Waweru , N. (2020). The impact of working capital management on corporate profita bility: Evidence from Kenya. *African Journal of Business Management, 14*(6), 153-165.

Zimon, G. (2019). An assessment of the strategy of working capital management in Polish energy companies. *International Journal of Energy Economics and Policy, 9*(6), 552-556.