

Enhancing Shareholder Value Through Efficient Working Capital Management : An Empirical Evidence From India

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Abstract

WCM is important owing to its effects on the firm's profitability, liquidity and more importantly on its value. In the current study, we investigated the link between efficiency of WCM and value of the firm in the Indian context during the period 2004 to 2015. We deployed accounting as well as market based metrics to decipher the relationship between firm value and cash conversion cycle. Using panel data regression model, we found that shorter cash conversion cycle leads to higher firm value; further, we observed a non-linear relationship between cash conversion cycle and firm value indicating optimal level of investment in working capital enhances shareholders' value. Majority of the independent variables including control variables in the model are found to be highly significant. Further, our results are robust and are in consonance with the theory and have far reaching implications for the corporate finance managers, prospective investors, lenders, suppliers, government and regulatory authorities.

I. Introduction

EFFICIENT MANAGEMENT OF working capital is a pre-requisite for enhancement of shareholders' value. Working capital management involves maintaining optimum level of inventories, accounts receivable and accounts payable (Lazaridis and Tryfonidis, 2006; Vurel, Sokmen and Cetenak, 2012; Ramiah, et al., 2014) it also includes efficient management of cash and other current liabilities without compromising on liquidity and profitability of the firm (Smith, 1980; Shin and Soenen, 1998; Aktas, Croci and Petmezas, 2015). In other words, it is efficient management of current assets and current

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References

- Abiodun, S. A. and O. L. Samuel, (2014), "A comparative analysis on working capital management of brewery companies in Nigeria", *International Journal of Finance and Accounting*, Vol. 3, No. 6, pp. 356-371.
- Abiodun, S. A. and O. L. Samuel, (2014), "A comparative analysis of working capital management of brewery companies in Nigeria" *International Journal of Finance and Accounting*, Vol. 3, No. 6, pp. 356-371.
- Abuzayed, B., (2012), "Working capital management and firms' performance in emerging markets: the case of Jordan" *International Journal of Managerial Finance*, Vol. 8, No. 2, pp. 155-179.
- Afrifa, G. A., V. Tauringana, and I. Tingbani, (2015), "Working capital management and performance of listed SMEs" *Journal of Small Business & Entrepreneurship*, pp. 1-22.
- Agrawal, A., and C. R. Knoeber, (1996), "Firm performance and mechanisms to control agency problems between managers and shareholders" *Journal of Financial and Quantitative Analysis*, Vol. 31, pp. 377-397.
- Akinlo, O., (2012), "Effects of working capital on profitability of selected quoted firms in Nigeria" *Global Business Review*, Vol. 13, No.3, pp. 367-381.
- Aktas, N., E. Croci, and D. Petmezas, (2015), "Is working capital management value -enhancing? Evidence from firm performance and investments" *Journal of Corporate Finance*, Vol. 30, pp. 98-113.
- Anderson, T. W. and C. Hsiao, (1982), "Formulation and estimation of dynamic models using panel data" *Journal of Econometrics*, Vol. 18, pp. 47-82.
- Anthony, R. N. and J. S. Reece, (2013), "Management accounting: text and cases", Irwin.
- Appuhami, B.A.R., (2008), "The impact of firms capital expenditure on working capital management: An empirical study across industries in Thailand", *International Management Review*, Vol. 4, pp. 8-21.
- Arellano, M. and S. Bond, (1991), "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equation", *Review of Economic Studies*, Vol. 58, pp. 277-297.
- Arellano, M. and O. Bover, (1995), "Another Look at the instrumental variable estimation of error components models" *Journal of Econometrics*, Vol. 68, No. 1, pp. 29-51.
- Autukaite, R. and E. Molay, (2011), "Cash holdings, working capital and firm value: Evidence from France." s.l., International Conference of the French Finance Association (AFFI).
- Bagchi, B. and B. Khamrui, (2012), "Relationship between Working Capital Management and Profitability, A study of Selected FMGG Companies in India" *Business and Economic Journal*, pp. 13-6.
- Baños-Caballero, S., P. J. García-Teruel, and P. Martínez-Solano, (2014), "Working capital management, corporate performance, and financial constraints", *Journal of Business Research*, Vol. 67, No. 3, pp. 332-338.
- Bender, R. and K. Ward, (2009), "Corporate Financial Strategies", 3rd ed. Elsevier Butterworth-Heinemann, Oxford.

Berk, J. B., R. Stanton, and J. Zechner, (2010), "Human capital, bankruptcy, and capital structure" *Journal of Finance*, Vol. 65, No. 3, pp. 891-926.

Berryman, J., (1983), "Small business failures and survey of the literature" *International Small Business Journal*, Vol. 1, No. 4, pp. 47-59.

Bhojraj, S., P. Hribar, M. Picconi, and J. McInnis, (2009), "Making sense of cents: an examination of firms that marginally miss or beat forecasts" *Journal of Finance*, Vol. 64, pp. 2361-2388.

Blinder, M. S. and L. J. Maccini, (1991), "The resurgence of inventory research: What have we learned?", *Journal of Economic Survey*, Vol. 5, pp. 291-328.

Blundell, R. and S. Bond, (1998), "Initial conditions and moment restrictions in dynamic panel data models" *Journal of Econometrics*, Vol. 87, No. 1, pp. 115-143.

Brealey, R. A., S. C. Myers, F. Allen, and Mohanty, P., (2014), "*Principles of corporate finance*". 11th edition.: Tata McGraw-Hill Education, Dehi pp.796

Brigham, E. F. and P. R. Daves, (2004), "*International Financial Management*", 8th ed. Thomson South Western Ohio

Carpenter, R. E. cheh, (1994, "Inventory investment, internal-finance fluctuations, and the business cycle" *Brookings Papers on Economic Activity*, Vol. 2, pp. 75-138.

Chen, T.-Y., Z. Gu, K. Kubota, and H. Takehara, (2015), "Accrual based and real activity based earnings management behavior of family firms in Japan" *The Japanese Accounting Review*, pp. 1-44.

Ching, H. Y., A. Novazzi, and F. Gerab, (2011), "Relationship between working capital management and profitability in Brazilian listed companies" *Journal of Global Business and Economics*, Vol. 3, No. 1, pp. 74-86.

Chiou, J. R., L. Cheng, and H. W. Wu, (2006), "The determinants of working capital management" *Journal of American Academy of Business*, Vol. 10, No. 1, pp. 149-155.

Coles, J. L., N. D. Daniel, and L. Naveen, (2008), "Boards: Does one size fit all?". *Journal of Financial Economics*, Vol. 87, No. 2, pp. 329-356.

Corsten, D. and T. Gruen, (2004), "Stock-outs cause workouts", *Harvard Business Review*, Vol. 82, pp. 26-28.

Cuñat, V., (2007), "Trade credit: suppliers as debt collectors and insurance providers" *Review of Financial Studies*, Vol. 20, pp. 491-527.

Damodaran, A., (2012), "Value Investing: Investing for Grown Ups?" *Working Paper*, p. SSRN 2042657.

Danielson, M. G. and J. A. Scott, (2000), "Additional evidences on the use of trade credits by small firms: The role of trade credit discount "SSRN Network, Working paper,

Deloof, M., (2003), "Does working capital management affect the profitability of the Belgian firms?", *Journal of Business Finance and Accounting*, Vol. 30, No. 4, pp. 573-587.

Dong, H. and J. Su, (2010), "The relationship between working capital management and profitability: A Vietnam case", *International Research Journal of Finance and Economics*, Vol. 49, pp. 62-71.

Duchin, R., J. G. Matsusaka, and O. Ozbas, (2010), "When are outside directors effective?", *Journal of Financial Economics*, Vol. 96, pp. 195-214.

Dunn, P. and L. Cheatham, (1993), "Fundamentals of small business financial management for start up, survival, growth and changing economic circumstances", *Managerial Finance*, Vol. 19, No. 8, pp. 1-13.

Eljelly, A., (2004), "Liquidity-Profitability Tradeoff: An Empirical Investigation in an Emerging Market" *International Journal of Commerce and Management*, Vol. 14, No. 2, pp. 48-61.

Fabbri, F. and D. Marin, (2012), "What explains the rise in CEO pay in Germany? A Panel data analysis for 1977-2009" Discussion Paper, IZA Discussion Paper No. 6420

Falope, O. I. and O. T. Ajilore, (2009), "Working Capital Management and Corporate Profitability: Evidence from Panel Data Analysis of Selected Quoted Companies in Nigeria" *Research Journal of Business Management*, Vol. 3, No. 3, pp. 73-84.

Fazzari, S. M. and B. Petersen, (1993), "Working capital and fixed investments: New evidences on financing constraints" *The Rand Journal of Economics*, Vol. 24, pp. 328-342.

Florackis, C., A. Kostakis, and A. Ozkan, (2009), "Managerial ownership and performance", *Journal of Business Research*, Vol. 62, pp. 1350-1357.

García-Teruel, J., Pedro and P. Martínez-Solano, (2007), "Effects of working capital management on SME profitability" *International Journal of managerial finance*, Vol. 3, No. 2, pp. 164-177.

García-Teruel, P. J. and P. Martínez-Solano, (2013), "The speed of adjustment in working capital requirement" *The European Journal of Finance*, Vol. 19, No. 10, pp. 978-992.

Gaud, P., E. Jani, M. Hoesli and A. Bender, (2005), "The Capital structure of swiss companies: an empirical analysis using dynamic panel data" *European Financial Management*, Vol. 11, No. 1, pp. 51-69.

Gentry, J. A., (1979), "An international study of management perceptions of the working capital process" *Journal of International Business Studies*, pp. 28-38.

Gill, A., N. Biger, and N. Mathur, (2010), "The relationship between working capital management and profitability: Evidence from the United States" *Business and Economics Journal*, Vol. 10, No. 1, pp. 1-9.

Hawawini, G., C. Viallet and A. Vora, (1986), "Industry influence on corporate working capital decisions" *Sloan Management Review*, Vol. 27, pp. 15-24.

Healy, P. M., (1985), "The effect of bonus schemes on accounting decisions" *Journal of Accounting and Finance*, Vol. 7, pp. 85-107.

Himmelberg, C., R. Hubbard and D. Palia, (1999), "Understanding the determinants of managerial ownership and the link between ownership and performance" *Journal of Financial Economics*, Vol. 53, pp. 353-384.

Hill, M. D., G. Kelly and M. J. Highfield, (2010), "Net operating working capital behaviour: A first look" *Financial Management*, Vol. 39, pp. 783-805.

Howorth, C. and P. Westhead, (2003), "The focus of working capital management in UK small firms" *Management Accounting Research*, Vol. 14, No. 2, pp. 94-111.

Hsiao, C., (1985), "Benefits and limitations of panel data" *Economic Review*, Vol. 4, pp. 121-174.

Jones, J., (1991), "Earnings Management During import relief investigations" *Journal of Accounting Research*, Vol. 29, pp. 193-228.

Jose, M. L., C. Lancaster, and J. L. Stevens, (1996), "Corporate return and cash conversion cycle" *Journal of Economics and Finance*, Vol. 20, pp. 33-46.

Joshi, P. V., (1995), "*Working capital management under inflation*", 1st ed. Anmol Delhi.

Kieschnick, R., M. LaPlante, and R. Moussawi, (2009), "Working capital management, access to financing, and firm value. *Working Paper*,

Kieschnick, R., M. Laplante, and R. Moussawi, (2013), "Working capital management and shareholders' wealth" *Review of Finance*, Vol. 17, No. 5, pp. 1827-1852.

Koumanakos, D. P., (2008), "The effect of inventory management on firm performance" *International Journal of Performance Management*, Vol. 57, No. 5, pp. 355-369.

Lazaridis, I. and D. Tryfonidis, (2006), "Relationship between working capital management and profitability of listed companies in Athens Stock Exchange" *Journal of Financial Management and Analysis*, Vol. 19, No. 1, pp. 26-35.

Lind, L. et al., (2012), "Working capital management in the automotive industry: Financial value chain analysis" *Journal of purchasing and supply management*, Vol. 18, No. 2, pp. 92-100.

Long, M. S., I. B. Malitz, and S. A. Ravid, (1993), "Trade credit, quality guarantees, and product marketability" *Financial Management*, Vol. 22, pp. 117-127.

Luo, M. M., J. J. Lee, and Y. Hwang, (2009), "Cash conversion cycle, firm performance and stock value", *Working Paper*, Villanova University

Lyroudi, K. and Y. Lazaridis, (2000), "The Cash Conversion Cycle and Liquidity Analysis of the Food Industry in Greece" *Working Paper*, SSRN Network

Mathuva, D., (2009), "The influence of working capital management components on corporate profitability: A survey on Kenyan listed firms" *Research Journal of Business Management*, Vol. 3, pp. 1-11.

Michaelas, N., F. Chittenden, and P. Poutziouris, (1999), "Financial policy and capital structure choice in UK SMEs: Empirical evidence from company panel data" *Small Business Economics*, Vol. 12, No. 2, pp. 113-130.

Michalski, G., (2007), "Portfolio management approach in trade credit decision making" *Romanian Journal of Economic Forecasting*, Vol. 3, pp. 42-53.

Mohammad, N. E. A. and N. M. Saad, (2011), "Working capital management: The effect of market valuation and profitability in Malaysia" *International Journal of Business Management*, Vol. 5, No. 11, pp. 140-147.

Mona, A.-M., (2012), "The impact of working capital management policies on firms profitability and value; The case of Jordan" *International Research Journal of Finance and Economics*, Vol. 3, No. 2, pp. 147-153.

Mosa, A., S. A. Iraj, and G. Maryam, (2012), "Studying the relationship between working capital management and profitability at Tehran stock exchange: a case study of food industry" *Research Journal of Applied Sciences, Engineering and Technology*, Vol. 4, No. 13, pp. 1868-1874.

Moss, J. D. and B. Stine, (1993), "Cash conversion cycle and firm size: a study of retail firms" *Managerial Finance*, Vol. 19, No. 8, pp. 25-34.

Narender, V., S. Menon and V. Shwetha, (2008), "Factors Determining Working Capital Management in Cement Industry" *South Asian Journal of Management*, Vol. 15, No. 4, pp. 64-78.

Nazir, M. S. and T. Afza, (2009), "Impact of aggressive working capital management policy on firms' profitability", *IUP Journal of Applied Finance*, Vol. 15, No. 8, pp. 19-30.

Nazir, M. S. and T. Afza, (2009), "Working capital requirements and the determining factors in Pakistan" *IUP journal of Applied Finance*, Vol. 15, No. 4, pp. 28-38.

Nazir, T. and M. S. Afza, (2007), "Is it better to be aggressive or conservative in managing working capital?" Singapore Economic Review Conference. Singapore,

Ng, C. K., J. K. Smith and R. L. Smith, (1999), "Evidence on the determinants of credit terms used in interfirm trade" *Journal of Finance*, Vol. 54, pp. 1109-1029.

Nobanee, H., (2009), "Working capital management and firms profitability: An optimal cash conversion cycle", *Working Paper*, SSRN Network

Nwankwo, O. and O. G. Solomon, (2010), "An empirical analysis of corporate survival and growth: Evidence from efficient working capital management", *International Journal of Scholarly Academic Intellectual Diversity*, Vol. 12, No. 1, pp. 1-13.

Padachi, K., (2006), "Trends in working capital management and its impact on firms' performance: an analysis of Mauritian small manufacturing firms" *International Review of business Research Papers*, Vol. 2, No. 2, pp. 45-58.

Panda, A., (2012), "The status of working capital and its relationship with sales: An empirical investigation of Andhra Pradesh Paper Mills Ltd (India)" *International Journal of Commerce and Management*, Vol. 22, No. 1, pp. 36-52.

Pass, C. L. and R. H. Pike, (1984), "An overview of working capital management and corporate financing" *Managerial Finance*, Vol. 10, No. 3, pp. 1-11.

Petroni, K., (1992), "Optimistic reporting in the property-casualty insurance industry" *Journal of Accounting and Economics*, Vol. 15, pp. 485-508.

Pike, R. and N. S. Cheng, (2001), "Credit Management: An Examination of Policy Choices, Practices and Late Payment in UK companies" *Journal of Business Finance & Accounting*, Vol. 28, No. 7/8, pp. 1013-1042.

Raheman, A. A., T. Qayyum and M. A. Bodla, (2010), "Working capital management and corporate performance of manufacturing sector in Pakistan", *International Research Journal of Finance and Economics*, Vol. 47, No. 1, pp. 156-169.

Raheman, A. and N. Mohamed, (2007), "Working capital management and profitability-case of Pakistani firms" *International review of business research papers*, Vol. 3, No. 1, pp. 279-300.

Ramachandran, A. and M. Janakiraman, (2009), "The relationship between working capital management efficiency and EBIT" *Managing Global Transitions*, Vol. 7, No. 1, p. 61.

Ramiah, V., Y. Zhao, and I. Moosa, (2014), "Working capital management during the global financial crisis: the Australian experience", *Qualitative Research in Financial Markets*, Vol. 6, No. 3, pp. 332-351.

Rao, R., (1989), "*Fundamentals of Financial Management*", 3rd ed. :McMillen.

Richards, V. D. and E. J. Laughlin, (1980), "A cash conversion cycle approach to liquidity analysis", *Financial management*, pp. 32-38.

Saccurato, F., (1994), "The study of working capital", *Business Credit*, Vol. 96, No. 1, pp. 36-37.

Salek, J. G., (2005), "*Accounts receivable management best practices*", John Wiley & Sons New Jersey.

Samiloglou, F. and K. Demirgunes, (2008), "The effect of working capital management on firm profitability: evidence from Turkey", *International Journal of Applied Economics and Finance*, Vol. 2, No. 1, pp. 44-50.

Sen, M. and E. Oruc, (2009), "The relationship between efficiency level of working capital management and return on total assets in Ise", *International Journal of Business Management*, Vol. 4, No. 10, pp. 109-114.

Sharma, A. K. and S. Kumar, (2011), "Effect of working capital management on firm profitability empirical evidence from India" *Global Business Review*, Vol. 12, No. 1, pp. 159-173.

Shin, H. H. and L. Soenen, (1998), "Efficiency of working capital and corporate profitability" *Financial Practice and Education*, Vol. 8, No. 2, pp. 37-45.

Shivakumar, L., (2000), "Do firms mislead investors by overstating earnings before seasoned equity offerings?" *Journal of Accounting and Economics*, Vol. 29, pp. 339-371.

Singh, H. P. and S. Kumar, (2014), "Working capital management: A literature review and research agenda" *Qualitative Research in Financial Markets*, Vol. 6, No. 2, pp. 173-197.

Skolnik, R., (2007), "The impact of inventory reductions upon cash balances" *Journal of American Academy of Business*, Vol. 11, No. 2, pp. 17-22.

Smith, B. M. and E. Begemann, (1997), "Measuring association between working capital and return on investment", *South African Journal of Business Management*, Vol. 28, No. 1, pp. 1-4.

Smith, K., (1980), "Profitability Vs Liquidity Tradeoffs in Working Capital Management", In: *Readings on the management of working capital*. West Publishing Company New York:

Smith, K. V., (1973), "State of the art working capital management", *Financial Management*, pp. 50-55.

Strischek, D., (2003), "The impact of working capital investment on the value of a company" *The RMA Journal*, Vol. 85, No. 7, pp. 48-55.

Tauringana, V. and G. A. Afrifa, (2013), "The relative importance of working capital management and its components to SME's profitability" *Journal of Small Business and Enterprise Development*, Vol. 20, No. 3, pp. 453-469.

Thomsen, S., T. Pedersen and H. Kvist, (2006), "Blockholder ownership: Effects on firm value in market and control based governance systems" *Journal of Corporate Finance*, Vol. 12, pp. 246-269.

Tong, Y. H., (2008), "Financial reporting practices of family firms" *Advances in family firms*, Vol. 23, pp. 231-261.

Tung, S. et al., (2008), "The use of extended credit (channel stuffing) to avoid reporting losses", *Asia-Pacific Journal of Accounting and Economics*, Vol. 15, No. 2, pp. 161-182.

Ukaegbu, B., (2014), "The significance of working capital management in determining firm profitability: Evidence from developing economies in Africa" *Research in International Business and Finance*, Vol. 31, pp. 1-16.

Vurel, G., A. G. Sokmen, and E. H. Çetenak, (2012), "Affects of working capital management on firm performance: Evidence from Turkey", *International Journal of Economics and Financial Issues*, Vol. 2, No. 4, p. 488.

Wang, C. S. et al., (2010), "Earnings management using asset sales: interesting issues for further study under unique institutional settings", *International Journal of Accounting & Information Management*, Vol. 18, No. 3, pp. 237-251.

Wang, Y. J., (2002), "Liquidity management, operating performance, and corporate value: Evidence from Japan and Taiwan" *Journal of Multinational Financial Management*, Vol. 12, pp. 159-169.

Wasiuzzaman, S., (2015), "Working capital and firm value in an emerging market" *International Journal of Managerial Finance*, Vol. 11, No. 1, pp. 60-79.

Wasiuzzaman, S., I. Sahafzadeh and N. R. Nejad, (2015), "Prospect theory, industry characteristics and earnings management: A study of Malaysian industries" *Review of Accounting and Finance*, Vol. 14, No. 3, pp. 324-347.

Watts, R. and J. Zimmerman, (1989), "*Positive Accounting Theory*", 1 ed. Prantice Hall, New York

Wilner, B. S., (2000), "The exploitation of relationships in financial distress: the case of trade credit" *Journal of Finance*, Vol. 55, pp. 153-178.

Wu, H. L., (2011), "Can minority state ownership influence firm value? Universal and contingency views of its governance effects" *Journal of Business Research*, Vol. 64, pp. 839-845.

Yazdanfar, D. and P. Öhman, (2014), "The impact of cash conversion cycle on firm profitability: an empirical study based on Swedish data" *International Journal of Managerial Finance*, Vol. 10, No. 4, pp. 442-452.

Zariyawati, M. A., M. N. Annuar, H. Taufiq and A. A. Rahim, (2009), "Working capital management and corporate performance: Case of Malaysia" *Journal of Modern Accounting and Auditing*, Vol. 5, No. 11, p. 47.

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