

Derivatives as Risk Management Tools: Insights from a Systematic Review of the Literature

Gyan Management
1-7

© The Author(s) 2025

DOI: 10.1177/09747621251329647

neom.ubijournal.com



Shubhangi Bedi¹

Abstract

This study investigates how the management of corporate risks, particularly through the use of derivatives, influences a company's capital structure and its overall characteristics. The investigation utilizes a systematic literature review (SLR) approach to analyse previous research on the strategies organizations implement to address financial, operational, and strategic risks using derivatives. The findings indicate that effective risk management, particularly through hedging, stabilizes cash flows, reduces costs linked to financial distress, and enhances the company's market value. The study emphasizes the necessity of incorporating risk management practices into corporate governance frameworks to improve decision-making quality. Additionally, the study points out areas requiring further investigation and proposes future research on the role of artificial intelligence (AI) and machine learning in risk management. The study provides valuable insights for researchers and practitioners, aiding in the connection between academic knowledge and real-world applications in risk management.

Keywords

Corporate risk management, derivative, literature review

Received 12 May 2024; **accepted** 15 May 2024

Introduction

The role of corporate risk management (CRM) has emerged as an essential aspect in contemporary business strategies, playing a key role in protecting businesses from various uncertainties that could jeopardize their financial health and future

¹Department of Evening Studies, Panjab University, Chandigarh, India

Corresponding author:

Shubhangi Bedi, Department of Evening Studies, Panjab University, Chandigarh 160014, India.

E-mail: shubhangi1354@gmail.com



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-Commercial use, reproduction and distribution of the work without further permission provided the original work is attributed.

success. As the world's markets become more linked and volatile, the need to identify, evaluate, and reduce risks has grown significantly. CRM involves a variety of methods and tools aimed at handling both financial and operational risks, ensuring that businesses can navigate challenges like market volatility, credit risks, regulatory shifts, and geopolitical events.

Fundamentally, CRM depends on the strategic utilization of derivatives, insurance, and other financial instruments that assist companies in shielding themselves from potential losses. These tools not only shield businesses from potential downsides but also allow them to improve their capital structures, maintain liquidity, and increase the overall worth of the company. The incorporation of risk management into the framework of corporate governance and decision-making highlights a wider acknowledgment that managing risk is about more than merely avoiding losses; it is also about seizing chances for expansion and innovation in a world that is becoming more complex.

This introduction lays the groundwork for delving into the various facets of CRM, including its effects on the capital structure, characteristics of the firm, and its wider implications for business strategy in a complex global economy. Despite the increasing focus on enterprise risk management (ERM) as a key strategy for improving an organization's ability to withstand challenges, there's still disagreement on the best approaches and their effects on a company's success. While recent studies have made progress in examining different parts of ERM, the variety of methods and situations these studies cover have resulted in scattered findings. This situation poses a difficulty for both academics and professionals in figuring out the best way to apply ERM in various company contexts. Furthermore, the quick progress in technology, especially in data analysis and artificial intelligence (AI), has introduced new dimensions to ERM that are not fully understood or included in current models. As companies deal with more complicated risks, the importance of having a thorough and unified understanding of ERM practices and their results has become more crucial.

This research aims to fill these gaps by analyzing and summarizing the latest studies on ERM, with the goal of pinpointing top practices, common obstacles, and areas that need more investigation. By doing this, it seeks to offer a more precise guide for the successful application and development of ERM in today's business settings.

1. To examine the research methodologies and previous studies on CRM.
2. To highlight the research gaps and future direction of risk management.

Methodology

A systematic literature review (SLR) displayed in Table 1 was carried out to offer a detailed and sophisticated insight into the previous research related to corporate social responsibility (CSR) within the particular domain of the hotel sector. An SLR is a commonly employed research technique designed to pinpoint, assess, and scrutinize the current scholarly works on a particular theme or area in a thorough and critical way. The chosen keywords were merged employing Boolean

Table 1. Corporate Risk Management Literature Review.

Author(s)	Year	Main Focus	Key Findings	Theoretical Framework	Methodology
Allayannis & Weston	2001	Examines the relationship between the value of firm and foreign currency	Firms using derivatives have higher market values, as derivatives reduce risk and enhance value creation opportunities	Modern Portfolio Theory (MPT), Risk Management Theories	Empirical study on US non-financial firms
Graham & Rogers	2002	Investigates whether firms use hedging to manage tax-induced financial constraints	Hedging increases debt capacity by reducing cash flow volatility, optimizing capital structure, and minimizing tax burdens	Trade-Off Theory of Capital Structure	Empirical analysis using tax and hedging data
Carter et al.	2002	Focuses on the impact of fuel hedging in the airline industry	Fuel hedging reduces operational risk and leads to more stable cash flows, improving firm profitability	Modern Portfolio Theory (MPT), Risk Aversion Theory	Case study of US airlines
Kaplan & Mikes	2012	Presents a framework for handling various kinds of risks within companies	Operational and strategic risk management should be integrated into a broader corporate strategy to ensure long-term success	Stakeholder Theory, Risk Management Frameworks	Conceptual framework with real-world examples
Beasley et al.	2005	Analyses the factors influencing the implementation of enterprise risk management	Organizations with robust corporate governance frameworks (e.g., risk committees) tend to have more effective risk management	Agency Theory, Corporate Governance Theories	Survey and empirical analysis
Jensen & Meckling	1976	Discusses the role of agency costs in corporate decision-making, including risk management	Managers may engage in risk management to align their actions with shareholder interests, reducing agency conflicts	Agency Theory	Theoretical analysis
Liebenson & Hoyt	2003	Examines the factors leading to the appointment of Chief Risk Officers (CROs)	Firms appoint CROs when they face complex risks, indicating the need for specialized risk management roles within the firm	Corporate Governance Theories, Stakeholder Theory	Empirical study based on US firms
Pagach & Warr	2011	Investigates firm characteristics related to the hiring of CROs	Firms in high-risk industries, with complex operational environments, are more likely to hire CROs to manage risk	Agency Theory, Stakeholder Theory	Empirical analysis using firm-level data

(Table 1 continued)

(Table 1 continued)

Author(s)	Year	Main Focus	Key Findings	Theoretical Framework	Methodology
Stulz	1996	Provides a conceptual rethinking of risk management in firms	Argues that risk management should focus on risks that have the greatest impact on firm value, rather than minimizing all risks	Trade-Off Theory of Capital Structure, Risk Management Theories	Theoretical framework with practical applications
Tufano	1996	Studies risk management practices in the gold mining industry	Firms in the gold mining industry actively manage price risks through derivatives to stabilize revenues	Modern Portfolio Theory (MPT), Risk Aversion Theory	Empirical study on gold mining companies
Minton & Schrand	1999	Analyses how cash flow volatility affects firm investment and financing costs	Firms with higher cash flow volatility face higher costs of debt and equity, prompting them to manage risk through hedging	Trade-off Theory of Capital Structure	Empirical study using financial data from firms
Nocco & Stulz	2006	Discusses the theory and practice of enterprise risk management (ERM)	ERM integrates risk management across the firm, helping firms to better manage risks holistically and improve firm value	Enterprise Risk Management Theories, Stakeholder Theory	Theoretical analysis with practical case studies
Froot et al.	1993	Explores the relationship between corporate investment and risk management practices	Firms that manage risks can better align investment and financing decisions, improving overall financial stability	Corporate Finance Theory, Risk Management Theories	Theoretical analysis with empirical examples
Guay & Kothari	2003	Investigate the extent of derivatives use among firms	Firms using derivatives hedge only a small fraction of their risk exposure, indicating limitations in risk management practices	Modern Portfolio Theory (MPT), Risk Aversion Theory	Empirical analysis using data on derivatives use
Bartram et al.	2011	Examines the effects of derivatives use on firm risk and value	Derivatives reduce firm risk but have mixed effects on firm value depending on the firm's overall risk profile	Modern Portfolio Theory (MPT), Risk Management Theories	Empirical study using global data
Brown & Kapadia	2007	Analyses the relationship between firm-specific risk and equity market development	Firms in more developed equity markets tend to engage in better risk management practices to lower firm-specific risks	Capital Market Development Theory, Risk Management Theories	Empirical study using global market data
Smith & Stulz	1985	Investigates the factors that drive firms to hedge	Firms hedge to manage financial distress costs, reduce taxes, and align with managerial incentives, contributing to firm value	Agency Theory, Tax Shield Theory	Theoretical and empirical analysis

logic operators, such as “OR” and “AND,” through the use of logical connectors. The task of examining academic literature included a methodical search for articles, working papers, and reports that had been peer-reviewed and were published in prestigious journals and academic databases like Scopus. Terms like “corporate risk management,” “financial risk,” “operational risk,” “strategic risk,” “derivatives,” “hedging,” and “capital structure” were used.

Results and Discussion

Many studies explore how the use of financial instruments like options, forwards, futures, and swaps affects the performance of companies. The evidence gathered suggests that companies employing these financial tools can lower the fluctuations in their earnings and the expenses related to financial distress, ultimately enhancing their overall worth. For instance, findings from Allayannis and Weston (2001) indicated that firms utilizing foreign currency derivatives for hedging purposes typically have a greater market value than those that do not. Research also shows that managing risk can influence a company’s financial structure by easing financial constraints and reducing the cost of borrowing. For example, Graham and Rogers (2002) showed that companies that manage risk through derivatives are better positioned to incur debt due to the stabilization of their cash flows, which enhances their financial structure. While the field of financial risk management is well-explored, there is an increasing focus on operational and strategic risk management. Operational risk management, which includes efforts to mitigate supply chain risks and enhance IT security, is crucial for ensuring the continuity of business operations. On the other hand, strategic risk management addresses issues related to market competition, regulatory changes, and technological disruptions.

Research conducted by Kaplan and Mikes (2012) highlights the necessity of incorporating risk management into the strategic decision-making process to enhance a company’s long-term performance. The role of corporate governance in CRM is also a subject of extensive investigation. Organizations with robust governance structures are more inclined to implement effective risk management practices. The implementation of CRM strategies can differ significantly across various sectors. Industries such as energy, finance, and manufacturing, for instance, possess unique risk profiles and therefore utilize distinct risk management approaches. For example, energy firms typically prioritize addressing risks linked to fluctuations in commodity prices, while financial institutions focus on managing risks associated with credit and interest rates. Studies by Carter et al. (2002) in the airline industry, for example, show how hedging against fuel prices can reduce operational risk and boost profitability.

Conclusion

This research has in-depth explored how CRM, especially through the strategic application of financial derivatives, plays a crucial role in forming the capital

structures of companies and affecting their overall traits. The results indicate that firms that adopt risk management strategies, like using financial derivatives for hedging, can more effectively manage their cash inflows, lower the expenses related to financial difficulties, and, in turn, boost their market worth. Additionally, incorporating risk management into the governance of a company has been demonstrated to enhance the decision-making capabilities of businesses, enabling them to better deal with market fluctuations. By combining previous studies and presenting concrete evidence, this research provides valuable perspectives for scholars and professionals alike. It closes the gap between academic theories and real-world applications, showing how proficient risk management can act as an essential instrument for companies operating in complex and unpredictable markets. Furthermore, the research highlights the significance of strong corporate governance in executing successful risk management approaches, providing a detailed roadmap for future studies and practical applications in this field. As data analytics, AI, and machine learning progress quickly, upcoming studies might investigate the ways these technologies can be incorporated into risk management strategies. Grasping the potential of AI-powered models to forecast and reduce risks efficiently could be essential for enhancing corporate governance and the process of making decisions.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

References

- Allayannis, G., & Weston, J. P. (2001). The use of foreign currency derivatives and firm market value. *The Review of Financial Studies*, 14(1), 243–276.
- Beasley, M. S., Clune, R., & Hermanson, D. R. (2005). Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. *Journal of Accounting and Public Policy*, 24(6), 521–531.
- Bartram, S. M., Brown, G. W., & Conrad, J. (2011). The effects of derivatives on firm risk and value. *Journal of Financial and Quantitative Analysis*, 46(4), 967–999.
- Brown, G., & Kapadia, N. (2007). Firm-specific risk and equity market development. *Journal of Financial Economics*, 84(2), 358–388.
- Carter, D., Rogers, D. A., & Simkins, B. J. (2002). Does fuel hedging make economic sense? The case of the US airline industry. *The Case of the US Airline Industry*.
- Froot, K. A., Scharfstein, D. S., & Stein, J. C. (1993). Risk management: Coordinating corporate investment and financing policies. *The Journal of Finance*, 48(5), 1629–1658.
- Graham, J. R., & Rogers, D. A. (2002). Do firms hedge in response to tax incentives? *The Journal of Finance*, 57(2), 815–839.
- Guay, W., & Kothari, S. P. (2003). How much do firms hedge with derivatives? *Journal of Financial Economics*, 70(3), 423–461.

- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate governance* (pp. 77–132). Gower.
- Kaplan, R. S., & Mikes, A. (2012). Managing risks: A new framework. *Harvard Business Review*, 90(6), 48–60.
- Liebenberg, A. P., & Hoyt, R. E. (2003). The determinants of enterprise risk management: Evidence from the appointment of chief risk officers. *Risk Management and Insurance Review*, 6(1), 37–52.
- Minton, B. A., & Schrand, C. (1999). The impact of cash flow volatility on discretionary investment and the costs of debt and equity financing. *Journal of Financial Economics*, 54(3), 423–460.
- Nocco, B. W., & Stulz, R. M. (2006). Enterprise risk management: Theory and practice. *Journal of Applied Corporate Finance*, 18(4), 8–20.
- Pagach, D., & Warr, R. (2011). The characteristics of firms that hire chief risk officers. *Journal of Risk and Insurance*, 78(1), 185–211.
- Smith, C. W., & Stulz, R. M. (1985). The determinants of firms' hedging policies. *Journal of Financial and Quantitative Analysis*, 20(4), 391–405.
- Stulz, R. M. (1996). Rethinking risk management. In *Corporate Risk Management* (pp. 87–120). Columbia University Press.
- Tufano, P. (1996). Who manages risk? An empirical examination of risk management practices in the gold mining industry. *The Journal of Finance*, 51(4), 1097–1137.