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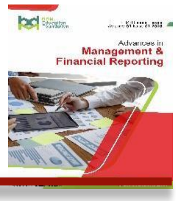

## Advances in Management & Financial Reporting

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# The Role and Effectiveness of Insurance and Hedging in Reducing the Risk of Financing Decisions

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**Conflict of Interest Statement:**

The author(s) declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



**ABSTRACT**

**Purpose:** This study examines the role and effectiveness of combining insurance and hedging as complementary strategies for managing financing risk in volatile economic environments. By investigating how these two risk management tools work together, the study aims to provide insights into how companies can optimize their financial stability through integrated risk mitigation.

**Research Design and Methodology:** A systematic literature review (SLR) was conducted to analyze recent research on insurance and hedging within financial risk management frameworks. The study evaluates empirical and theoretical sources to explore the synergy between these strategies and their applicability across different risk scenarios.

**Findings and Discussion**: The findings reveal that insurance protects companies from direct operational risks, such as asset damage and unexpected losses, while hedging mitigates market volatility risks, including interest rate and commodity price fluctuations. The combined use of these tools offers a dual-layered approach, providing comprehensive protection against diverse financial risks. Additionally, the study highlights the importance of regulatory support in facilitating access to these instruments, strengthening corporate resilience and stakeholder confidence.

**Implications:** This research contributes to theory and practice by enhancing understanding of dual-instrument risk management. For managers, the findings serve as a guide for selecting appropriate risk mitigation strategies and balancing cost-efficiency and stability. For policymakers, the study underscores the need for a supportive regulatory environment to implement these strategies effectively. Future research could explore sector-specific applications and long-term effects on corporate performance.

## Introduction

The financing decision-making process within companies is inherently risky due to the global markets' unpredictable and complex nature. Factors such as fluctuating market conditions, economic shifts, and unforeseen geopolitical events place companies in vulnerable positions, impacting their financial stability (Settembre-Blundo et al., 2021). For instance, a sudden currency devaluation can drastically alter the costs of foreign transactions, while unexpected regulatory changes can undermine carefully crafted financial strategies. Firms increasingly adopt sophisticated risk management strategies, such as insurance and hedging, to mitigate these risks (Tapang et al., 2022). Insurance serves as a financial buffer by offering protection against potential losses to assets and business operations, helping stabilize companies amid uncertainty. Meanwhile, hedging provides an alternative, often more dynamic approach, allowing organizations to navigate risks arising from volatile interest rates, commodity prices, and currency exchange rates (Mensi et al., 2024). These two instruments have become fundamental in financial risk management, enabling companies to protect their assets while pursuing growth objectives with reduced exposure to adverse events.

Risk management in financing decisions is underpinned by two main theories: agency theory and portfolio theory. Agency theory emphasizes the relationship between managers acting as agents and shareholders as principles with vested interests in the company's sustainable value (Jensen & Smith, 2000). Managers are responsible for adopting strategies that safeguard the company's value in shareholders' interests, particularly in the face of unforeseen financial risks. Insurance and hedging become attractive risk mitigation tools within this framework, as both can reduce potential financial losses threatening corporate stability (Cai, 2024). Insurance, for instance, protects against physical or operational losses, providing shareholders with confidence that the company's value remains protected despite external disruptions. On the other hand, portfolio theory offers a different perspective, asserting that risk can be diversified through a balanced combination of assets and instruments, including derivatives used in hedging strategies. This theory supports a comprehensive risk management approach, where companies rely not solely on a single instrument but leverage a combination of insurance and hedging to achieve optimal protection against market volatility (Jacobs & Levy, 2024). In this study, portfolio theory is a foundation for analyzing how diversified risk instruments can strengthen a company's financial stability.

Recent studies underscore the growing importance of hedging and insurance in financial decision-making and risk management. Liu et al. (2024) found that improved readability of risk-related hedging information positively impacts investor perception, particularly with high hedging effectiveness. Banerjee et al. (2024) showed that impact investments enhance hedging effectiveness in agricultural commodity portfolios, especially during crises. Babenko et al. (2024) noted that loan covenants significantly shape hedging policies, with over 85% of loan agreements requiring hedging, driven by binding covenants that shape corporate strategies. Additionally, Han (2024) identified the energy sector as the most cost-effective hedge post-conflict, with size and quality factors proving effective for risk mitigation. Parallel research highlights the roles of hedging and insurance across various economic contexts. For instance, Xu & Kinkyo (2023) found Bitcoin to be a more robust short-term hedge than gold in the G7 stock markets during crises. Glonti et al. (2023) noted that insurance markets in emerging economies are essential yet limited by low-risk culture and financial constraints. Yudha et al. (2023) identified that foreign debt and company size heavily influence hedging decisions for Indonesian SOEs, with less impact from liquidity and exchange rates. Banerjee et al. (2024) also demonstrated that impact investments in agricultural portfolios improve hedging effectiveness during crises. Further studies on the interaction between risk management, insurance, and hedging reveal the influence of various external factors. For instance, Lee et al. (2021) found that policy-related risks impact debt financing more than equity. In addition, Maples et al. (2022) showed that crop insurance programs affect hedging decisions depending on the insurance type and price levels. These findings highlight the complexity of developing effective risk management strategies, especially across diverse economic contexts.

Despite significant advances in understanding insurance and hedging as individual risk management tools, substantial gaps in their combined effectiveness in financing decisions still need to be analyzed. Existing literature addresses these tools in isolation, overlooking how they synergize to enhance risk mitigation across diverse market environments. While Liu et al. (2024) and Banerjee et al. (2024) offer insights into specific hedging scenarios, they must address a holistic perspective on how companies strategically deploy insurance and hedging. This oversight limits the empirical and theoretical understanding of their joint application in dynamic financial contexts, where risks often intersect and amplify. While Babenko et al. (2024) highlight the critical role of loan covenants in shaping hedging policies, similar research on how such contractual mechanisms influence insurance strategies needs to be more extensive. This gap is crucial, as the constraints and requirements set by covenants could also impact the strategic integration of insurance as a risk management tool. Existing studies tend to explore either hedging or insurance individually, thus limiting comprehensive insights into how these tools can interact to mitigate financing risks in complex economic settings characterized by fluctuating market variables. This study addresses these gaps by exploring the complementary role of insurance and hedging, analyzing how their integrated use might optimize financial stability, especially under volatile conditions.

This study addresses existing gaps by comprehensively analyzing how insurance and hedging jointly mitigate financing risk, particularly in contemporary financial volatility and the rising demands for effective risk management. By synthesizing findings from recent studies, this research seeks to provide an integrated perspective on the dual role and effectiveness of these two risk management tools. This approach presents a novel contribution through its dual focus on insurance and hedging, a combination that has yet to be explored in the literature. In today's unpredictable global economy, a holistic understanding of the synergistic function of insurance and hedging can offer companies broader insights into making more robust financial decisions. The central research question guiding this systematic literature review (SLR) is: To what extent can insurance and hedging effectively mitigate the risks associated with corporate financing decisions? This study aims to identify the circumstances under which insurance and hedging prove most effective, uncover synergies between the two strategies, and provide guidance for managers and policymakers aiming to optimize financial risk mitigation efforts.

## Literature Review

*Evolution of Financial Risk Management and Dual-Instrument Application*

Financial risk management has evolved significantly with rising global economic complexity and volatility. Initially, companies used separate strategies: insurance to protect against operational losses, covering mainly tangible assets, and hedging to mitigate market risks like price fluctuations and currency changes (Banks, 2004). This segmented approach addressed different types of risk independently, yet its limitations surfaced as economic systems became more interconnected. The interplay of various risk factors—such as market shifts, operational disruptions, and geopolitical events—highlighted the need for an integrated risk management approach (Odulaja et al., 2023). Integrated risk management has emerged in response to this complexity, as traditional, isolated tools like insurance or hedging often fall short of providing comprehensive protection in today's volatile financial landscape (Taskinsoy, 2022). By combining both strategies, companies can better address interconnected risks, with insurance covering direct losses, such as asset damage, and hedging offering long-term protection against financial fluctuations (Kouvelis et al., 2011). This integrated strategy supports a more holistic risk management approach, allowing businesses to understand how commodity price shifts can impact costs, cash flows, and operational budgets in broader, interconnected ways.

Recent research highlights the advantages of adopting a dual-instrument strategy, where insurance and hedging address multifaceted risks. For example, in sectors like agriculture and finance, businesses have successfully implemented integrated strategies combining insurance for physical asset protection and hedging to stabilize financial performance during market volatility (Kalui, 2009). These approaches protect assets, enhance investor confidence, and improve business stability. In agriculture, for instance, insurance covers physical losses due to natural disasters, while hedging helps mitigate the impact of fluctuating commodity prices, a common challenge in this sector. Studies by Rizal et al. (2024) show that this combined approach is efficient during times of crisis when market conditions are unpredictable and when both operational risks and financial market risks escalate simultaneously. The demand for comprehensive risk management strategies has surged as the global market continues to evolve (Mızrak, 2023). More businesses are recognizing the need for a dual-instrument approach, which combines the short-term protection offered by insurance with the long-term financial security provided by hedging. This shift is particularly relevant in sectors facing increasing market volatility. The integration of these two tools allows companies to safeguard against risks that are not only diverse but interdependent (Settembre-Blundo et al., 2021). The flexibility of this approach provides companies with a more robust, more adaptive strategy to respond to unpredictable market conditions, ultimately improving financial resilience.

This dual-instrument strategy is relevant for large corporations and is increasingly being adopted by smaller enterprises and emerging markets. Studies have shown that in emerging economies, where access to traditional financial risk management tools may be limited, insurance and hedging offer a more accessible means of managing risk. The approach allows these businesses to diversify their risk management practices and build a more robust financial foundation, enhancing their ability to withstand market and operational shocks (Wang, 2024). The evolution of financial risk management demonstrates the growing need for integrated strategies that combine the strengths of multiple tools. As more sectors embrace dual-instrument approaches, understanding how these tools can complement each other becomes more critical (Hopkin, 2018). This integrated perspective provides theoretical insights and practical guidance for businesses seeking to optimize their risk management efforts. By synthesizing recent research, this literature review highlights the value of combining insurance and hedging, offering companies a more comprehensive approach to managing the complexities of today's financial environment.

*Theoretical Underpinnings: Agency Theory and Portfolio Theory*

Integrating agency theory and portfolio theory offers a robust framework for understanding how insurance and hedging can be jointly applied to strengthen financial risk management. Agency theory focuses on the relationship between shareholders, who act as principals, and managers, who serve as agents responsible for making operational decisions on behalf of the company (Shapiro, 2005). According to agency theory, managers have a fiduciary duty to protect and enhance shareholder value, which requires them to mitigate risks that could jeopardize the company's financial stability (Mrabure & Abhulimhen-Iyoha, 2020). This duty to protect shareholders' interests aligns directly with adopting insurance and hedging strategies. By combining these tools, managers work toward maintaining the company's financial stability and reducing its cost of capital, ultimately benefiting shareholders. The use of both instruments reflects a strategic adherence to fiduciary responsibilities, demonstrating a practical and comprehensive risk management approach that not only safeguards the company's financial assets but also enhances investor confidence in its long-term resilience and stability (Babenko et al., 2024). This dual approach is precious in reassuring shareholders that the company is actively managing potential threats and striving to sustain financial health, especially in uncertain or volatile market conditions.

In addition to agency theory, portfolio theory complements the use of insurance and hedging by emphasizing diversification as an essential aspect of effective risk management. Portfolio theory posits that a diversified approach to risk management minimizes the impact of individual risk sources, thereby reducing the likelihood of significant losses from any single source (Stewart et al., 2019). In practical terms, employing a range of risk mitigation tools, such as insurance and hedging, allows companies to address various risks simultaneously and in a balanced way (Banks, 2004). Insurance, for example, provides coverage for tangible assets and ensures the continuity of operations. At the same time, hedging helps manage exposure to risks related to market fluctuations, such as changes in currency exchange rates or commodity prices (Kulshrestha, 2022). The combination of these instruments offers a layered protection strategy that enhances corporate resilience and adaptability to various economic conditions. Through this layered approach, companies benefit from a diversified risk management system that aligns with the core principles of portfolio theory, allowing them to spread and reduce risk exposure across different areas and thereby build a stronger foundation for long-term financial stability.

When examined through the lens of both agency and portfolio theories, the synergy between insurance and hedging becomes increasingly apparent. From an agency theory perspective, using these tools together enables managers to fulfill their fiduciary duties more comprehensively by addressing immediate and long-term risks that could disrupt company operations (Feng, 2024). Insurance provides immediate protection against direct losses, such as physical damage to assets or interruptions in operations caused by unforeseen events (Majka, 2024). This immediate coverage is crucial for maintaining business continuity and ensuring that the company can withstand disruptions in the short term. On the other hand, hedging offers stability over the longer term by managing financial risks associated with market fluctuations, thus protecting the company from adverse shifts in commodity prices or foreign exchange rates that might erode profits (Garbaravicius & Dierick, 2005). This dual approach meets shareholder expectations for value preservation and instills confidence in the company's ability to endure economic uncertainties and protect its investments. From the perspective of portfolio theory, integrating insurance and hedging also aligns well with the principle of diversification. When combined, these two instruments create a multi-dimensional approach to risk mitigation that significantly reduces the company's exposure to various sources of risk. Insurance helps shield the company from tangible and operational risks, while hedging safeguards against more volatile, market-driven risks.

*Effectiveness and Synergies of Hedging and Insurance*

In financial risk management, the effectiveness of hedging and insurance as individual risk mitigation tools has been a critical focus in academic research and business practice. Each instrument holds unique characteristics and advantages when addressing various types of risks. Hedging is commonly used to manage rapid market volatility and price fluctuations, such as currency or commodity price changes, which can impact a company's financial stability in the short term (Alam & Gupta, 2018). By employing hedging strategies, firms can protect themselves against the adverse effects of sudden market price shifts. This approach is crucial in industries susceptible to price changes, where financial risk from market uncertainty can lead to significant losses if not managed effectively. Conversely, insurance is focused on protecting against more direct and measurable operational risks, such as losses from fires, natural disasters, or asset damage (Kousky, 2019). Insurance provides financial compensation for losses from events that could disrupt business operations. A study by Liu et al. (2024) highlights that clear communication of risk-related information, especially regarding hedging effectiveness, enhances positive investor perceptions, strengthening stakeholder confidence in the company. This finding underscores the importance of understanding each tool's influential role in building stakeholder trust.

Beyond the individual effectiveness of each tool, combining hedging and insurance has proven to create a powerful synergy, strengthening a company's financial resilience more than if they were used separately (Kousky, 2022). In many cases, this combination provides more comprehensive protection against risk. The synergy between hedging and insurance arises because each instrument addresses different yet complementary risks. For instance, hedging offers protection against dynamic, rapidly changing market risks, while insurance safeguards against physical or operational losses that tend to be more stable and long-term. In this regard, insurance serves as a safety net against losses that could immediately disrupt business continuity, while hedging acts as a buffer against market price changes that affect the company's financial aspects. Hachicha et al. (2022) reveal that integrating impact investments and hedging strategies within agricultural commodity portfolios enhances hedging effectiveness, particularly during crises. This finding demonstrates that a strategic combination of hedging and insurance can help firms maintain financial resilience in uncertain economic conditions.

Loan covenants and regulatory requirements also play a vital role in shaping a company's hedging and insurance policies. Loan agreements often require companies to take specific risk management measures. Research by Babenko et al. (2024) indicates that over 85% of loan agreements include hedging requirements, suggesting that hedging is critical in protecting corporate commitments to financial obligations. However, limited studies explore the role of insurance in these loan agreements, pointing to a gap in literature. Expanding research into how insurance supports risk management within the framework of loan agreements and regulatory requirements could provide a more comprehensive view of these two tools in enhancing corporate financial stability. The effectiveness of combining hedging and insurance varies across economic sectors in developed and developing countries. Different economic contexts affect how these instruments are utilized and how they impact corporate financial stability. For example, Xu & Kinkyo (2023) found that Bitcoin, as a hedging tool, has a more substantial short-term risk-mitigating effect than gold during crises in G7 stock markets, suggesting that innovative hedging tools can be practical when applied strategically in specific market contexts. Meanwhile, insurance becomes crucial in developing countries but also faces unique challenges, such as cultural and financial constraints. Kiptoo et al. (2021) emphasize that developing countries' insurance market plays a vital role in risk management, although internal constraints often limit its effectiveness. This highlights the need for broader empirical studies to understand how integrating insurance and hedging can effectively enhance corporate financial resilience in various economic sectors.

## Research Design and Methodology

*Study Design*

This research adopts a qualitative systematic literature review (SLR) design to comprehensively understand the synergies between insurance and hedging in financial risk management. By synthesizing existing academic studies, the SLR approach allows for an in-depth exploration of theoretical frameworks, practical applications, and the effectiveness of combined risk management tools. The qualitative approach identifies patterns, themes, and insights from existing literature, providing a nuanced view of agency and portfolio theory in risk mitigation.

*Sample Population or Research Subject*

The research comprises peer-reviewed articles, journal publications, and relevant books published from 2014 onward, focusing on applying insurance and hedging within financial risk management. This time frame ensures that only recent and relevant studies contribute to the analysis, reflecting contemporary views and practices in the field. The selection criteria also include literature that addresses agency theory, portfolio theory, or both within the context of risk management.

*Data Collection Techniques and Instrument Development*

Data was collected through systematic searches in academic databases such as JSTOR, ScienceDirect, and Google Scholar. Specific keywords such as "insurance and hedging synergy," "agency theory in risk management," and "portfolio theory application in finance" guided the search. Instrument development involved creating a matrix to categorize each study according to key themes, research findings, and theoretical perspectives, ensuring structured and consistent data extraction.

*Data Analysis Techniques*

The data analysis applied thematic analysis to identify recurring themes and significant insights related to the effectiveness and synergy of insurance and hedging. This approach allowed for the categorization of findings, enabling a cohesive synthesis of how these tools interact within agency and portfolio theories to enhance financial resilience.

## Findings and Discussion

### *Findings*

In financial risk management, insurance and hedging each play a crucial role in protecting companies from various financial losses, especially in economic volatility. Each tool serves a distinct function in addressing different types of risks. Insurance is primarily used to protect against direct operational risks, such as asset damage or operational disruptions caused by unforeseen events like natural disasters, fires, or accidents (Odulaja et al., 2023; Taskinsoy, 2022). It acts as a financial buffer, allowing companies to transfer specific risks to an insurer and receive compensation when covered losses occur. This financial protection helps companies maintain operations and pursue long-term goals without severe disruptions in cash flow. Insurance is a critical safety net in economic uncertainty, allowing companies to withstand unforeseen events without significant financial strain. Recent findings indicate that insurance is essential in supporting financial stability, particularly for companies exposed to high operational risk, where safeguarding valuable assets helps stabilize cash flows and contributes to the overall financial resilience of the organization (Xu & Kinkyo, 2023).

Hedging, conversely, serves as a dynamic tool to manage market-related risks, such as fluctuations in interest rates, foreign exchange rates, and commodity prices (Glonti, 2023). This tool is essential in industries sensitive to rapid price changes, where unforeseen market volatility can significantly affect profitability. By locking in prices for future transactions, hedging allows companies to manage costs more predictably and avoid unexpected financial pressures from adverse market changes (Banerjee et al., 2024). It also helps companies manage risks associated with cost increases for critical inputs or investment value fluctuations due to market instability. By hedging specific exposures, companies mitigate the risk of price volatility, creating a more stable environment for financial planning and decision-making. Research has shown that effective hedging strategies reduce the financial burden of market volatility on companies by allowing them to control costs and ensure predictable outcomes (Xu & Kinkyo, 2023). Studies highlight the critical role of hedging in managing various financial risks across multiple market conditions, enabling companies to make more informed financial decisions in response to changing market dynamics (Kulshrestha, 2022).

This research emphasizes that combining insurance and hedging provides a more comprehensive approach to financial risk management than using either tool alone. The synergy between insurance and hedging lies in their complementary functions: while insurance protects against tangible, operational losses, hedging addresses more volatile, market-driven risks (Mızrak, 2023). For example, insurance shields companies from losses that result from asset damage or operational interruptions, providing immediate compensation that helps them resume activities. Meanwhile, hedging protects companies from market fluctuations, ensuring longer-term stability in financial transactions affected by changes in commodity prices, currency exchange rates, or interest rates (Wolfson & Klein, 2023). Studies show that a combined strategy of insurance and hedging leads to greater financial resilience, especially under high-risk economic conditions (Settembre-Blundo et al., 2021). This combined strategy reinforces a company's ability to withstand different risk scenarios, creating a multi-dimensional risk management approach that protects assets and builds trust among stakeholders, investors, and partners.

The research also identifies specific conditions that simultaneously enhance insurance and hedging effectiveness. Regulatory stability, accessible financial markets, and adequate resources are vital factors in maximizing the benefits of a combined risk management strategy. Conversely, companies that lack these conditions may face challenges in implementing a dual strategy effectively (Yudha et al., 2023; Kouvelis et al., 2011). For instance, the costs associated with both insurance and hedging may be prohibitively high for smaller companies or those with limited resources (Odulaja et al., 2023). Additionally, rapid regulatory changes or policy uncertainties can undermine the effectiveness of this strategy, making it difficult for companies to rely on consistent risk management approaches. Studies have noted that in stable financial and regulatory environments, companies are better able to leverage insurance and hedge in tandem, thereby optimizing their risk management efforts. Identifying the ideal conditions for integrating both instruments provides valuable guidance for companies seeking to adopt a dual strategy and for policymakers aiming to create supportive environments for corporate risk management practices (Settembre-Blundo et al., 2021).

A critical finding from this research is that each tool's effectiveness is context-dependent, meaning that both instruments must be strategically adapted to each company's unique risk profile and sector-specific needs. For instance, companies operating in highly regulated industries may rely more heavily on insurance to meet compliance requirements. In contrast, those in industries with volatile input costs may prioritize hedging to stabilize pricing (Banks, 2004). By understanding these instruments' distinct but complementary roles, companies can more accurately target risk factors and allocate resources effectively. This approach ensures adequate risk protection and promotes resource efficiency, making dual-instrument strategies adaptable across diverse sectors. Studies consistently emphasize that a comprehensive understanding of both tools is essential for managers to maximize the potential of combined risk management strategies.

### *Discussion*

The discussion of the research findings provides an in-depth examination of the role and effectiveness of combining insurance and hedging in mitigating financing risks within companies. Based on the analysis, insurance has demonstrated high efficacy in protecting companies from operational risks and direct losses due to unforeseen events, such as asset damage, fires, or natural disasters. These findings suggest that companies that adopt insurance enjoy more stable financial protection, enabling them to safeguard cash flow and assets even amid economic uncertainties. With insurance in place, companies do not bear the entire burden of losses alone, which allows them to maintain financial stability essential for sustained operations. This aspect is particularly critical for companies with substantial tangible assets and high operational risks, where insurance provides a long-term safety net for business continuity. The risk transfer concept represented by insurance underlines that companies can delegate much of their risk to a third party (the insurance company) by paying a fixed premium, an essential investment to preserve financial stability across varying economic conditions.

The study also highlights the role of hedging as a vital strategy for managing market risks, particularly commodity price volatility, interest rate fluctuations, and exchange rate shifts. As an adaptive risk management tool, Hedging enables companies to lock in future prices, thereby shielding themselves from significant and sudden price changes in the market. This approach is crucial for companies exposed to large-scale market risks, such as those that rely on imported raw materials or engage in international trade. By utilizing hedging instruments such as futures contracts, options, and swaps, companies can avoid risks associated with market price uncertainty and maintain stable profitability. The findings confirm that Hedging is pivotal in stabilizing company finances by effectively controlling extreme price volatility risks through financial instruments aligned with the company's risk profile. In essence, Hedging is not only a tool for tempering the effects of price volatility but also serves as a mechanism for predicting and managing company cash flows, thus enabling companies to engage in financial planning with greater confidence.

The findings show that the synergy between insurance and Hedging offers a more comprehensive shield against companies' risks. Combining these two instruments provides a multi-layered protection approach covering direct operational and unpredictable market risks. With this dual strategy, companies can mitigate potential financial losses resulting from unforeseen events while reducing exposure to market price fluctuations. In other words, insurance guarantees protection against physical and operational risks, while hedging guards against market volatility that could directly impact financial stability. In addition to maintaining financial balance, this strategy enhances stakeholder confidence, particularly among investors and business partners, as it reflects the company's commitment to comprehensively protecting its business value. In the current context of increasing global economic uncertainty, the synergy between insurance and Hedging delivers significant added value, allowing companies to remain resilient despite various economic dynamics.

This study also highlights some challenges in implementing a combined strategy of insurance and Hedging, particularly concerning the costs of simultaneously applying both instruments. High insurance premiums and hedging contract fees can impose financial burdens on companies, especially smaller firms or those operating with tight profit margins. These findings indicate that, while this combined strategy is proven effective in risk reduction, companies must balance the benefits of risk protection with cost efficiency. The application of a dual strategy requires careful planning and assessment to align the need for risk mitigation with the company's financial capacity. Consequently, companies must establish a risk management strategy emphasizing protection effectiveness and considering cost efficiency to sustain long-term profitability. This approach will assist companies in selecting and adjusting the most relevant risk mitigation strategies, thereby achieving an optimal balance between risk protection and financial sustainability.

This study is well-supported by agency theory and portfolio theory, which emphasize the importance of diversification in corporate risk management. Agency theory underscores the managerial responsibility to safeguard and preserve shareholder value, particularly when companies face risks that could threaten financial stability and operational continuity. Within this context, combining insurance and Hedging provides a dual-layered approach that enables managers to demonstrate adherence to their fiduciary duties. By utilizing both strategies, managers address individual risks and take proactive measures to mitigate various forms of risk across multiple dimensions. This approach aligns with the core principles of agency theory, where managers, acting as agents, are accountable for protecting shareholder interests in the best possible manner. By implementing a comprehensive risk mitigation strategy, managers can reduce potential substantial losses and safeguard the company's value against external threats. In addition, portfolio theory advocates using multiple risk mitigation instruments, such as insurance and Hedging, to minimize exposure to diverse and uncorrelated risk sources. Diversification through a dual strategy reduces the impact of any single risk source on overall financial stability. According to portfolio theory, utilizing multiple risk management tools concurrently decreases exposure to specific events or market fluctuations. By combining insurance to protect against direct or operational risks and hedging against market volatility, companies achieve more effective layered protection, allowing them to maintain stable cash flow even amid dynamic economic conditions. From a portfolio theory perspective, this approach secures the company against individual risks and creates a comprehensive framework for long-term financial stability. This dual-instrument strategy provides companies with a balanced and adaptable means of managing risk, helping them to address both immediate and future uncertainties in a cohesive and resilient manner.

This study's findings align well with previous research, affirming the significance of combining insurance and hedging financial risk management. Liu et al. (2024) revealed that improved readability of risk-related hedging information positively affects investor perception, mainly when Hedging shows high effectiveness. This finding supports our conclusion that Hedging can enhance financial stability and influence stakeholder confidence. Banerjee et al. (2024) further demonstrated that impact investments improve hedging effectiveness, particularly in agricultural commodity portfolios during crises. This is consistent with our study's results, which show that Hedging plays a crucial role in helping firms navigate market volatility, thus minimizing the effects of fluctuating market conditions on capital costs. Babenko et al. (2024) also emphasized the importance of loan covenants in shaping hedging policies, with more than 85% of loan agreements requiring Hedging as part of their terms. These covenants indicate that regulatory mechanisms are instrumental in ensuring that firms prioritize risk mitigation. Such findings reinforce our study's insights into aligning corporate financial strategies with regulatory requirements to strengthen financial resilience. Parallel studies further highlight the critical roles of Hedging and insurance across various economic contexts, supporting the effectiveness of a dual approach. For instance, Xu and Kinkyo (2023) found Bitcoin to be a more potent short-term hedge than gold in G7 stock markets during crises, suggesting that alternative assets can play a significant role in risk mitigation. Glonti (2023) also identified that insurance markets in emerging economies are vital yet limited by factors such as low-risk culture and financial constraints, highlighting a gap that may restrict effective risk management in certain regions. In the Indonesian context, Yudha et al. (2023) found that foreign debt and company size significantly affect hedging decisions for state-owned enterprises (SOEs). In contrast, liquidity and exchange rates had less influence. These findings underscore the complex dynamics in risk management across different markets, emphasizing the importance of adaptable strategies. Our study's results, which show that combining Hedging and insurance can effectively diversify and mitigate risks, resonate with previous literature, enhancing empirical support for using these tools to address multifaceted financial risks in stable and volatile economic environments.

The practical implications of these findings are highly relevant for corporate managers and policymakers in developing more adaptive risk management strategies. For managers, the results of this study serve as a guide to the critical importance of selecting risk mitigation instruments that align with their companies' specific needs and risk profiles. Managers must weigh the cost-benefit factors associated with a combined strategy of insurance and Hedging, recognizing that this dual approach offers more robust risk protection and positively influences investor confidence in the company's financial stability. By implementing a layered risk management strategy, companies can enhance their resilience to operational and market risks, ensuring a more consistent cash flow and reducing potential financial disruptions. This approach can also provide competitive advantages, as investors and stakeholders will likely favor companies with robust and transparent risk mitigation strategies.

For policymakers, these findings underscore the need for regulatory frameworks that promote stability and accessibility to risk management instruments, such as insurance and Hedging. Supportive and stable policies enable companies to access financial markets more effectively, making it easier for them to leverage the combined benefits of these risk mitigation strategies. Predictable and well-structured regulations can foster a financial environment where companies can adopt sustainable risk management practices, thereby contributing to broader economic stability. Additionally, regulations that enhance the transparency and availability of hedging and insurance instruments can empower companies to make more informed decisions in risk management, further promoting resilience across industries. In a globally interconnected and volatile market, these policies help companies navigate financial uncertainties and strengthen their competitive standing, enabling them to manage risks better and adapt to evolving economic conditions.

## Conclusion

This study investigated the role and effectiveness of combining insurance and hedging as complementary strategies for mitigating financing risk. By examining the dual application of these tools, the study provides insights into how insurance serves as a safety net against operational and unexpected losses. At the same time, hedging offers dynamic protection against market volatility, such as fluctuations in interest rates and commodity prices. The findings demonstrate that a combined approach can provide companies with a more comprehensive risk mitigation framework, enhancing stability and financial resilience. The research responds to the central question of how insurance and hedging can jointly mitigate financing risks, highlighting the value of an integrated risk management strategy that supports companies in stable and uncertain economic environments.

The study makes a valuable contribution to scientific understanding and practical application in risk management. Theoretically, this research enhances the knowledge of dual-instrument risk management by demonstrating how insurance and hedging work together to address different types of risks. The originality of this study lies in its dual focus, offering an empirical perspective on the synergy between these two risk mitigation tools. Practically, the study provides managers with a framework for selecting appropriate risk management strategies tailored to specific company needs, balancing cost-effectiveness and protection. The study underscores policymakers' need for a stable regulatory environment that supports companies in accessing financial markets, enabling them to benefit from combined insurance and hedging strategies. This integrated approach contributes to a more resilient financial system, benefiting companies and the broader economic landscape by ensuring robust financial safeguards.

While this study offers valuable insights, it also has limitations that present opportunities for future research. The primary limitation lies in its reliance on a specific economic context, suggesting that results may vary in other financial or regulatory environments. Additionally, the study did not explore sector-specific factors in detail, which could affect the effectiveness of insurance and hedging combinations. Future research could explore how these strategies perform across diverse industries and regulatory conditions to provide more nuanced guidance. Further studies may also investigate the long-term impacts of combined risk mitigation strategies on corporate performance, expanding upon this research to offer a deeper understanding of sustainable financial risk management practices.

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