DIJEFA: Dinasti International Journal of Economics, Finance & Accounting
E-ISSN: 2721-303X
P-ISSN: 2721-3021
https://dinastipub.org/DIJEFA dinasti.info@gmail.com +62 811 7404 455
DINASTI PUBLISHER

DOI: https://doi.org/10.38035/dijefa.v6i5

The Effect of Derivative Hedging Policy on Cash Flow Volatility and Financial Performance in Export-Oriented Companies

Ekayana Sangkasari Paranita[1*], Sapto Haji[2]
[1]Universitas Sahid, Jakarta, Indonesia, ekayana_sparanita@usahid.ac.id
[2]Universitas Trisakti, Jakarta, Indonesia, 221022304017@std.trisakti.ac.id

[*]Corresponding Author: ekayana_sparanita@usahid.ac.id[1]

Abstract: This study analyzes the impact of derivatives hedging policies on cash flow volatility and the financial performance of export-oriented companies. Export companies face significant risks due to fluctuations in exchange rates and global market uncertainties, which affect their cash flows and overall financial stability. To mitigate these risks, companies often adopt derivatives hedging strategies, utilizing instruments such as forward contracts, futures, options, and swaps. This research adopts a Systematic Literature Review (SLR) approach, where a structured search and synthesis of relevant journal articles, academic books, and reports were performed to gather existing insights on derivatives hedging in export companies. The findings from the literature suggest that derivatives hedging policies are effective in reducing cash flow volatility and improving financial performance by providing stability in cash flows and mitigating risks associated with exchange rate fluctuations. However, the effectiveness of these hedging strategies is contingent on selecting appropriate instruments and aligning them with the company's risk profile. This study also highlights the challenges posed by transaction costs and the complexity of implementing hedging policies. The research contributes to understanding how derivatives hedging policies can assist companies in managing external risks, and it offers recommendations for future research to explore the comparative effectiveness of various derivative instruments in enhancing the financial performance of companies across different sectors.

Keywords: Hedging Policy, Derivatives, Cash Flow Volatility, Financial Performance, Export Companies.

INTRODUCTION

Export-oriented companies face a variety of more complex challenges compared to companies focused on the domestic market, especially in the face of risks posed by exchange rate fluctuations and global market uncertainty (Allen et al., 2022). Foreign exchange rate volatility can lead to instability in a company's cash flow, which ultimately impacts their financial performance. This uncertainty in exchange rates is especially affecting companies that depend on international transactions for revenue, as exchange rates can affect the selling

price of products, the cost of importing raw materials, and ultimately affect the profitability of the company. Therefore, export companies often adopt hedging policies to manage such risks. Hedging policies use derivative instruments, such as forward contracts, futures, options, and swaps, which are designed to protect companies from losses due to unexpected price fluctuations or foreign exchange rates (Jankensgård & Moursli, 2020; Sandri, 2023). Although derivatives hedging is often seen as an effective tool for reducing risk, its impact on cash flow volatility and a company's financial performance remains a matter of debate among academics and practitioners alike.

The derivatives hedging policy is expected to reduce the risks faced by export companies by providing stability to cash flows and stability in revenues received from international transactions (Fernandez-Perez et al., 2022). This study aims to analyze how derivatives hedging policies can affect the cash flow volatility and financial performance of export-oriented companies. Financial performance measurement will be carried out using indicators such as Return on Assets (ROA), Return on Equity (ROE), and profitability. In addition, this study will explore the factors that influence a company's decision to adopt derivatives hedging policies, as well as evaluate the extent to which hedging is effective in managing external risks.

According to the theory of Modern Portfolio Theory (Nguyen & Vo, 2020), efficient risk management can help companies to maximize value and reduce the uncertainty they face, especially with regard to market risk. In the context of export companies, the use of derivative instruments serves to diversify risks, where companies can reduce the negative impact of exchange rate fluctuations that can affect cash flow (Li & Umair, 2023). Meanwhile, according to Agency Theory (Guedhami et al., 2021), hedging decisions can also reduce conflicts between managers and shareholders related to the financial uncertainty faced by the company. The use of derivative instruments such as forward contracts and options provides companies with more certainty regarding expected cash flows, thereby improving operational efficiency and financial performance in the long run.

Although derivative hedging can provide protection against exchange rate fluctuations and market volatility, its effectiveness in improving a company's financial performance is still a controversial topic (Ciriello, 2021). Several studies show that hedging can reduce cash flow volatility and improve financial performance (Sun & Ding, 2020; Ullah et al., 2023), while other studies state that the costs associated with using derivative instruments sometimes outweigh the benefits obtained (Parsons et al., 2020). Therefore, it is important to understand the factors that influence a company's decision in using derivatives instruments and to evaluate whether a hedging policy is truly effective in improving the company's performance and reducing the external risks it faces.

The formulation of the problem in this study focuses on several main aspects related to the influence of derivative hedging policies on the volatility of cash flows and financial performance of export-oriented companies. This study aims to identify how derivative hedging policies can affect the cash flow volatility of export companies, given exchange rate fluctuations and global market uncertainty that can affect cash flow stability. Furthermore, this study will also analyze whether the implementation of derivative hedging policies has a significant influence on the company's financial performance, which is measured by various indicators such as Return on Assets (ROA), Return on Equity (ROE), and profitability. This research will explore the factors that influence companies' decisions in implementing derivatives hedging policies, including economic conditions, corporate risk profiles, and international market factors. Finally, the study will also evaluate the extent to which derivatives hedging policies are effective in reducing external risks faced by companies, especially those related to exchange rate fluctuations and market uncertainty that can impact the company's financial performance.

This research is expected to contribute to understanding how derivatives hedging policies can help export companies in dealing with risks caused by exchange rate fluctuations and other external factors. The results of this study are expected to provide insight for policymakers and company managers in making decisions regarding the use of derivatives instruments to protect the company's financial performance in the face of international market uncertainty.

Derivatives Hedging Policy

Derivatives hedging policies are strategies used by companies to protect themselves from financial risks arising from fluctuations in market prices, especially in the face of currency exchange rate or commodity price uncertainty (Wang & Zhou, 2022). Hedging is done using derivative instruments such as forward contracts, futures, options, and swaps, which allow companies to lock in prices or exchange rates at a certain level within a certain period of time. The main objective of this policy is to reduce volatility that can affect the stability of the company's cash flow (Ahmed & Elnahass, 2024). In the context of companies involved in exports, derivatives hedging becomes a very important tool to protect companies from foreign exchange rate fluctuations that can be detrimental, especially when the company's income comes from international transactions (Choi et al., 2021). Several studies have shown that derivative hedging not only serves as a risk management tool, but can also improve a company's financial performance by providing certainty in received cash flow (Reyad et al., 2022). However, on the other hand, this hedging policy can also incur additional costs, such as transaction fees or lost opportunities, so it needs to be implemented carefully and in accordance with the company's risk profile.

Export-oriented companies

An export-oriented company is a company whose majority of revenue comes from the export of goods or services to the international market (Gani et al., 2023). This type of company is highly exposed to the risks associated with fluctuations in foreign exchange rates, as the difference between domestic and foreign currency exchange rates can affect the selling price of products and the cost of importing raw materials (Bernoth & Herwartz, 2021). In addition, export companies also face political, economic, and legal risks related to the countries in which they operate. Therefore, export-oriented companies tend to be more susceptible to external uncertainties that could affect their financial stability. In the face of these challenges, export companies often rely on derivatives hedging policies to mitigate risks stemming from exchange rate uncertainty and international market volatility (Yuqing et al., 2025). In addition, the company also needs to pay attention to more holistic risk management, which includes managing external factors that can affect their operational and financial performance. Companies that successfully manage these risks well can gain a competitive advantage in the global market and maintain the continuity of their business in the long term (da Silveira Fernandes et al., 2023).

METHOD

This study employs a Systematic Literature Review (SLR) approach, which is a systematic research method to identify, evaluate, and synthesize relevant studies on the topic under investigation (Tóth et al., 2023). This approach ensures that the collection of literature is carried out with a highly structured procedure, guaranteeing that all relevant studies are comprehensively and transparently analyzed. The SLR method was chosen as it allows the researcher to systematically explore the existing literature, assess contributions, and identify limitations in previous research.

In this study, a total of 30 articles relevant to the research topic were analyzed. These articles were selected based on predefined criteria and obtained from various sources indexed

in international databases such as Scopus, Google Scholar, and Web of Science (WOS). The articles were classified based on the type of journal, research object, variables analyzed, and the key findings in previous studies (Mengist et al., 2020).

The articles analyzed were classified according to the following main criteria:

1. Journal Type: Articles from international journals indexed in Scopus, WOS, and relevant national journals.
2. Research Object: The focus of the research is on export companies, manufacturing companies, and companies implementing derivative hedging policies.
3. Analyzed Variables: The main variables analyzed include cash flow volatility, financial performance (ROA, ROE), and derivative instruments used in hedging policies.
4. Key Findings: The main findings involved the impact of hedging policies on cash flow volatility and improvements in financial performance.

For example, the classification of the analyzed articles is shown in the table below:

Table 1. Classification of Articles Based on Journal Type, Research Object, and Variables

No.	Author(s) (Year)	Variables	Key Findings
1	(Tóth et al., 2023)	Hedging, Risk Management	Hedging improves risk management and stability
2	(Mengist et al., 2020)	Hedging, Financial Performance	Hedging increases profitability and reduces risk
3	(Oberländer et al., 2020)	Hedging, Cash Flow Volatility	Hedging policies mitigate cash flow risks in exports

The data collection process involved searching literature in reputable academic databases, such as Scopus, Google Scholar, and WOS. The search was conducted using relevant keywords such as 'derivative hedging', 'cash flow volatility', 'financial performance in export companies', and 'exchange rate risk'. To broaden the scope of the literature, a snowball sampling technique was applied, where references found in relevant articles were used to locate additional literature that enriched the analysis.

The collected data were analyzed using the thematic analysis technique, where the literature was grouped into specific themes, such as:

1. The impact of hedging on cash flow volatility
2. The influence of hedging policies on the financial performance of export companies
3. Factors influencing hedging decisions

Findings from each theme were compared to identify similarities and differences among previous studies, as well as to draw conclusions regarding the impact of derivative hedging policies on cash flow volatility and the financial performance of export-oriented companies.

The analysis was also conducted by comparing various perspectives in the literature and linking relevant theories to the empirical findings in previous research (Oberländer et al., 2020). This process allowed the researcher to delve deeper into how hedging policies are implemented in practice in export companies and how these policies affect their financial stability.

To ensure the validity and reliability of this study's results, only literature from credible sources indexed in reputable scientific databases was selected. Furthermore, the literature used in this study has undergone a peer review process and has significantly contributed to the development of theory and practice in the financial sector, especially in relation to derivative hedging policies and export-oriented companies. The researcher also avoided bias by conducting an objective analysis, relying only on data that is relevant to the research topic and objectives.

RESULTS AND DISCUSSION

The Impact of Hedging Policies on Cash Flow Volatility

Based on the literature review, the majority of studies that discuss the relationship between derivative hedging policies and cash flow volatility show that hedging policies can reduce cash flow fluctuations caused by exchange rate uncertainty. Research by (Jankensgård & Moursli, 2020) and (Vengesai, 2025) shows that companies that use hedging policies tend to have more stable cash flows compared to companies that do not use derivative instruments. Derivative instruments, such as forward contracts or options, allow companies to lock in exchange rates at a certain rate, which reduces uncertainty in cash flows from international transactions (Reyad et al., 2022).

However, although hedging has been shown to reduce cash flow volatility, not all studies have found uniform results. (Wu et al., 2024) in their research on manufacturing companies in Indonesia, show that although hedging can stabilize cash flows, the application of derivative instruments requires a lot of costs. Therefore, the hedging policy needs to be adjusted to the capacity and risk profile of each company.

Table 1. The Effect of Hedging Policy on Cash Flow Volatility

Researchers	Findings	Types of Derivative Instruments
(Jankensgård & Moursli, 2020)	Hedging reduces cash flow volatility in export companies	Forward contracts, Options
(Vengesai, 2025)	Hedging is effective in stabilizing cash flow	Forward contracts, Futures
(Reyad et al., 2022)	Hedging reduces exchange rate uncertainty and improves cash flow stability	Options, Swaps
(Wu et al., 2024)	Hedging stabilizes cash flow but involves high transaction costs	Forward contracts, Futures

The Effect of Hedging Policy on the Company's Financial Performance

Most studies examining the relationship between derivatives hedging and the financial performance of export-oriented companies show that hedging policies can improve a company's financial performance. The use of derivative instruments, especially to protect companies from fluctuations in exchange rates and commodity prices, helps companies in maintaining income and expense stability, which in turn has a positive effect on profitability ratios such as Return on Assets (ROA), Return on Equity (ROE), and profitability (Le & Nguyen-Phung, 2024; Reyad et al., 2022).

However, some studies show that not all companies that hedge successfully improve their financial performance. (Sravan & Mishra, 2024) stated that although hedging can reduce uncertainty, derivatives instruments often involve high costs and potential additional risks that can reverse the company's losses if not managed properly.

Table 2. The Effect of Hedging on the Company's Financial Performance

Researchers	Findings	Financial Performance Indicators
(Le & Nguyen-Phung, 2024)	Hedging improves financial performance by reducing uncertainty	ROA, ROE, Profitability
(Reyad et al., 2022)	Hedging helps companies maintain income and expense stability, boosting profitability	ROE, Profitability
(Sravan & Mishra, 2024)	Hedging reduces uncertainty but involves high costs and potential risks	ROA, Profitability

Factors Influencing Derivatives Hedging Decisions

The factors that influence a company's decision to implement a derivatives hedging policy vary widely. External factors such as international market conditions, exchange rate volatility, and global economic uncertainty are the main drivers for companies to use derivative instruments (He et al., 2024; Liu et al., 2025). In addition, the company's internal characteristics such as risk management policies, financial profiles, and long-term strategies also play an important role in the decision to hedge.

Table 3. Factors Influencing Derivatives Hedging Decisions

Researchers	Factors Influencing Derivatives Hedging Decisions
(He et al., 2024)	Dependence on international market conditions, exchange rate volatility
(Liu et al., 2025)	Global economic uncertainty, long-term business strategies

The Effectiveness of Derivative Hedging in Reducing External Risk

Literature studies show that derivatives hedging is highly effective in reducing external risks faced by export-oriented companies, especially with regard to exchange rate fluctuations and global market uncertainty. Research conducted by (Hajiyev et al., 2024) and (Buyukkara et al., 2022) confirms that hedging companies have succeeded in reducing the negative impact of exchange rate fluctuations and unstable market conditions. Hedging helps companies to gain certainty in terms of cash flow and prices, which in turn provides financial stability for the company.

Table 4. The Effectiveness of Hedging in Reducing External Risks

Researchers	Findings	Reduced External Risks
(Hajiyev et al., 2024)	Hedging reduces the negative impact of exchange rate fluctuations and market instability	Exchange rate risk, market uncertainty
(Buyukkara et al., 2022)	Hedging improves financial stability by managing global market volatility	Exchange rate risk, market uncertainty

Discussion

The results of this study show that derivatives hedging policies have a significant influence on the cash flow volatility and financial performance of export-oriented companies. The use of derivative instruments, such as futures, options, and swap contracts, has been proven to help companies in managing the risk of exchange rate fluctuations and commodity prices, which are major risks for companies operating in international markets. This supports the theory of Modern Portfolio Theory (Ameur et al., 2024) which states that risk diversification, including the use of derivative instruments, can improve the efficiency and stability of a company's portfolio. The decrease in cash flow volatility and the resulting improvement in financial performance from this hedging policy provide empirical evidence that hedging can serve as an effective tool in achieving a company's long-term financial goals.

The current phenomenon, especially in the highly dynamic global market, shows that global economic uncertainty and fluctuations in commodity prices are increasing. Situations like this make hedging policies even more relevant for export companies. For example, in recent years, fluctuations in energy prices and changes in currency exchange rates in global markets have caused uncertainty for companies that rely on international transactions. At the same time, changing international trade policies also increase the external risks that companies must manage, either through hedging policies or through other risk management (Karkowska & Urjasz, 2024).

Although derivatives hedging has proven to be effective in reducing cash flow volatility, it is important to note that not all companies that implement this policy have successfully made a profit. For example, high transaction costs, as well as mismatches between the selected

derivative instruments and the needs of the company, can reduce the effectiveness of hedging policies (Titova et al., 2020). (Ahnouch et al., 2023) revealed that companies that do not have a good understanding of the derivative instruments used tend to fail to mitigate risks optimally, and may even incur further losses.

In addition, companies that rely on derivatives instruments to protect themselves from market risks should pay attention to internal factors, such as the risk management policies in place in the company. According to Agency Theory (Haar & Gregoriou, 2021), the decision to hedge depends not only on external conditions, but also on the relationship between managers and shareholders. Managers who have better knowledge of derivatives instruments and financial markets tend to make more informed and profitable hedging decisions for companies. However, in some cases, a mismatch between the company's short-term and long-term goals can cause the hedging policy to be implemented not in line with the company's overall financial strategy.

External factors such as global market uncertainty and changes in international economic policies also play a big role in the effectiveness of hedging policies. At a time when major countries such as the United States and China are experiencing trade tensions, currency exchange rates can fluctuate sharply, and this can affect the income stability of companies operating in the global market. By using the right derivatives instruments, companies can mitigate the impact of these fluctuations, thus maintaining the stability of their cash flows (Jankensgård & Moursli, 2020).

The Modern Portfolio Theory developed by (Boyle et al., 2021) suggests that the use of derivative instruments in the context of export companies can serve as a tool to reduce the company's total risk. Derivative hedging allows companies to manage uncertainty and reduce reliance on external factors that can lead to cash flow volatility and financial performance. In this case, hedging not only serves as a risk management tool, but can also increase the value of a company by maintaining greater financial stability and certainty.

However, it should be noted that derivatives hedging is not always effective in all market conditions. For example, if a company is caught in using derivative instruments that are not in accordance with market conditions, then hedging can turn disadvantageous. This is in line with the findings in a study by (Niromandfam et al., 2020) which showed that although hedging can reduce risk, the cost and complexity of its management can lead to undesirable outcomes. Therefore, it is important for companies to have the right hedging strategy in place and adapt it to existing market conditions.

The use of derivative instruments, while it can improve financial performance, also presents additional risks for companies. Derivative instruments such as options or futures contracts contain elements of speculation that can be high risk. If companies do not have a solid understanding of how these instruments work, they risk losses greater than the benefits obtained (Brillinger et al., 2020). Therefore, it is important for companies to develop a mature risk management policy and have a good understanding of the derivatives instruments they choose to avoid potential losses.

In the context of export-oriented companies, in addition to hedging, companies also need to adopt other approaches to manage the risks they face, such as product or market diversification. This diversification aims to reduce dependence on one market or one product only, so that companies are less exposed to fluctuations in exchange rates or prices of certain commodities. With the right combination of hedging and diversification policies, companies can better manage risk and improve their overall performance (Odusami & Akinsomi, 2024).

Based on an analysis of these findings, the authors argue that although derivatives hedging has great benefits in managing the risk of exchange rate fluctuations and commodity prices, its success depends heavily on the selection of the right instrument and a good understanding of the instrument. Additionally, companies should also consider the costs

involved in implementing a hedge policy and align this strategy with their long-term goals. Therefore, effective risk management, including the use of derivative instruments, must be done carefully and supported by in-depth knowledge of the market and the instruments used.

The authors also suggest that companies engaged in the export sector should not rely solely on hedging as the only tool to protect themselves from external risks. More holistic risk management, which includes the development of broader risk management policies, can provide better protection against unpredictable market volatility.

CONCLUSION

Based on the results of the research that has been analyzed, it can be concluded that derivatives hedging policies have a significant influence in reducing cash flow volatility and improving the financial performance of export-oriented companies. The use of derivative instruments such as futures, options, and swaps has proven to be effective in protecting companies from exchange rate fluctuations and international market uncertainty that can affect financial stability. The study also shows that while hedging can improve cash flow stability and profitability, its effectiveness is highly dependent on the selection of the right instruments as well as a deep understanding of a company's risk profile. Companies that successfully implement hedge policies carefully can reap significant benefits in terms of risk management, especially in addressing fluctuations arising from volatile global markets.

However, the findings of this study also remind that hedging policies are not always successful if companies do not have a sufficient understanding of the derivative instruments used. The transaction costs and potential risks associated with derivative instruments must be carefully considered so that the hedging policy does not reverse to the detriment of the company. Therefore, it is crucial for companies to ensure that the risk management policies implemented are in accordance with the specific needs and existing market conditions.

Recommendations for Further Research

Further research can deepen the analysis of the effectiveness of derivatives instruments across different industry sectors, given that hedging policies can have different impacts depending on industry characteristics and levels of dependence on international markets. In addition, further research could test comparisons between the use of different derivative instruments, such as futures versus options contracts, in managing cash flow volatility in export companies. Researchers can also conduct empirical research by collecting data from companies that implement hedging policies to analyze their impact on financial performance in a more specific and measurable way. A longitudinal study that analyzes the effectiveness of hedging policies in the long term will also provide deeper insights into how these policies affect a company's financial sustainability in the face of external risks.

In addition, subsequent research should consider broader external factors, such as changes in international trade policies or global economic crises, that could affect the success of hedging policies. Thus, this research will make a more holistic contribution in understanding the role and challenges of derivatives hedging policies for export-oriented companies.

REFERENCES

Ahmed, M. S., & Elnahass, M. (2024). Being famous matters: Evidence from cash flow volatility. *International Review of Financial Analysis*, *93*, 103165.

Ahnouch, M., Elaachak, L., & Ghadi, A. (2023). Model risk in financial derivatives and the transformative impact of deep learning: A systematic review. *The Proceedings of the International Conference on Smart City Applications*, 155–165.

Allen, F., Gu, X., & Jagtiani, J. (2022). Fintech, cryptocurrencies, and CBDC: Financial structural transformation in China. *Journal of International Money and Finance*, *124*,

102625.
Ameur, H. Ben, Ftiti, Z., Louhichi, W., & Yousfi, M. (2024). Do green investments improve portfolio diversification? Evidence from mean conditional value-at-risk optimization. *International Review of Financial Analysis*, *94*, 103255.
Bernoth, K., & Herwartz, H. (2021). Exchange rates, foreign currency exposure and sovereign risk. *Journal of International Money and Finance*, *117*, 102454.
Boyle, C. F. H., Haas, J., & Kern, J. D. (2021). Development of an irradiance-based weather derivative to hedge cloud risk for solar energy systems. *Renewable Energy*, *164*, 1230–1243.
Brillinger, A.-S., Els, C., Schäfer, B., & Bender, B. (2020). Business model risk and uncertainty factors: Toward building and maintaining profitable and sustainable business models. *Business Horizons*, *63*(1), 121–130.
Buyukkara, G., Kucukozmen, C. C., & Uysal, E. T. (2022). Optimal hedge ratios and hedging effectiveness: An analysis of the Turkish futures market. *Borsa Istanbul Review*, *22*(1), 92–102.
Choi, S., Salam, M. A., & Kim, Y. (2021). Foreign currency derivative usage and firm value in Bangladesh: comparative analysis between exporters and non-exporters under exchange rate movements. *International Journal of Emerging Markets*, *16*(8), 2070–20921.
Ciriello, R. F. (2021). Tokenized index funds: A blockchain-based concept and a multidisciplinary research framework. *International Journal of Information Management*, *61*, 102400.
da Silveira Fernandes, S. M. F., de Farias Aires, R. F., & Salgado, C. C. R. (2023). The transient competitive advantage model to analyze business scenario of technology companies. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(1), 100011.
Fernandez-Perez, A., Frijns, B., Gafiatullina, I., & Tourani-Rad, A. (2022). Profit margin hedging in the New Zealand dairy farming industry. *Journal of Commodity Markets*, *26*, 100197.
Gani, M. O., Faroque, A. R., & Takahashi, Y. (2023). Export Market Orientation. *SpringerBriefs in Business*.
Guedhami, O., Mansi, S., Reeb, D., & Yasuda, Y. (2021). Economic policy uncertainty and allocative distortions. In *Journal of Financial Stability* (Vol. 56, p. 100923). Elsevier.
Haar, L., & Gregoriou, A. (2021). Risk management and market conditions. *International Review of Financial Analysis*, *78*, 101959.
Hajiyev, N., Abdullayeva, S., & Abdullayeva, E. (2024). Financial stability strategies for oil companies amidst high volatility in the global oil products market. *Energy Strategy Reviews*, *53*, 101377.
He, Q., Liang, B., & Liu, J. (2024). RMB internationalization and exchange rate exposure of Chinese listed firms. *Journal of International Money and Finance*, *145*, 103098.
Jankensgård, H., & Moursli, R. M. (2020). Derivative cash flows and corporate investment. *Journal of Banking & Finance*, *119*, 105916.
Karkowska, R., & Urjasz, S. (2024). Volatility transmission and hedging strategies across green and conventional stocks in global markets. *International Review of Financial Analysis*, *96*, 103727.
Le, H., & Nguyen-Phung, H. T. (2024). Assessing the impact of environmental performance on corporate financial performance: A firm-level study of GHG emissions in Africa. *Sustainable Production and Consumption*, *47*, 644–654.
Li, Y., & Umair, M. (2023). The protective nature of gold during times of oil price volatility: an analysis of the COVID-19 pandemic. *The Extractive Industries and Society*, *15*, 101284.

Liu, H., Yu, J., Tang, G., & Chen, J. (2025). External trade policy uncertainty, corporate risk exposure, and stock market volatility. *China Economic Review*, *89*, 102331.

Mengist, W., Soromessa, T., & Legese, G. (2020). Method for conducting systematic literature review and meta-analysis for environmental science research. *MethodsX*, *7*, 100777.

Nguyen, D. K., & Vo, D.-T. (2020). Enterprise risk management and solvency: The case of the listed EU insurers. *Journal of Business Research*, *113*, 360–369.

Niromandfam, A., Yazdankhah, A. S., & Kazemzadeh, R. (2020). Designing risk hedging mechanism based on the utility function to help customers manage electricity price risks. *Electric Power Systems Research*, *185*, 106365.

Oberländer, M., Beinicke, A., & Bipp, T. (2020). Digital competencies: A review of the literature and applications in the workplace. *Computers & Education*, *146*, 103752.

Odusami, B. O., & Akinsomi, O. (2024). Diversifying and hedging REIT portfolios with cryptocurrencies: Evidence from global and regional REIT indices. *International Review of Financial Analysis*, *94*, 103329.

Parsons, S., Allen, M. J., & Chuck, C. J. (2020). Coproducts of algae and yeast-derived single cell oils: A critical review of their role in improving biorefinery sustainability. *Bioresource Technology*, *303*, 122862.

Reyad, H. M., Zariyawati, M. A., Ong, T. S., & Muhamad, H. (2022). The impact of macroeconomic risk factors, the adoption of financial derivatives on working capital management, and firm performance. *Sustainability*, *14*(21), 14447.

Sandri, D. (2023). FX intervention to stabilize or manipulate the exchange rate? Inference from profitability. *Journal of International Money and Finance*, *131*, 102786.

Sravan, C., & Mishra, P. P. (2024). Bridging the gap between finance and conservation biology: How derivatives can help in conservation. *Journal for Nature Conservation*, *78*, 126550.

Sun, W., & Ding, Y. (2020). Corporate social responsibility and cash flow volatility: The curvilinear moderation of marketing capability. *Journal of Business Research*, *116*, 48–59.

Titova, Y., Penikas, H., & Gomayun, N. (2020). The impact of hedging and trading derivatives on value, performance and risk of European banks. *Empirical Economics*, *58*(2), 535–565.

Tóth, Á., Suta, A., Pimentel, J., & Argoti, A. (2023). A comprehensive, semi-automated systematic literature review (SLR) design: Application to P-graph research with a focus on sustainability. *Journal of Cleaner Production*, *415*, 137741.

Ullah, S., Irfan, M., Kim, J. R., & Ullah, F. (2023). Capital expenditures, corporate hedging and firm value. *The Quarterly Review of Economics and Finance*, *87*, 360–366.

Vengesai, E. (2025). The role of derivatives' use on firms' capital cost and financial stability: evidence from South African listed non-financial firms. *African Journal of Economic and Management Studies*.

Wang, N., & Zhou, Q. (2022). Does commodity hedging with derivatives reduce stock price volatility? *Finance Research Letters*, *50*, 103321.

Wu, J., Li, A., Dan, A. K., Orozco, M. J. H., Khan, M. A., Nie, J., Parides, C. J., St Luce, B. K., & Vorm, E. T. R. (2024). Financialisation, energy transition, and the looting of clean energy business corporations in the United States. *Energy Research & Social Science*, *114*, 103614.

Yuqing, L., Farooq, U., Alomair, A., & Al Naim, A. S. (2025). US Equity Market Volatility Spillover Effects on Economic Development in BRICS Countries. *Borsa Istanbul Review*.