Foreign Exchange Risk Hedging in Internationally Active Firms: Global Evidence and Implications for Colombia

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ABSTRACT
This article examines the literature on firm-level foreign exchange risk hedging in internationally active firms, with particular attention to emerging markets, Latin America, and Colombia. The review analyzes the main financial and non-financial strategies used to manage exchange-rate exposure, including derivatives-based hedging, natural hedging, operational hedging, currency invoicing, and contractual adjustment mechanisms. It also synthesizes the principal determinants of hedging adoption, the outcomes associated with hedging use, and the barriers that constrain access to hedging tools in less developed financial environments. The findings suggest that the strongest evidence is concentrated in large and financially sophisticated firms, while smaller firms and emerging-market contexts remain less documented and more constrained by market depth, institutional frictions, and regulatory conditions. In Latin America, Chile and Colombia provide especially relevant evidence for understanding the relationship between foreign exchange exposure, derivatives usage, firm value, and policy context. For Colombia, the literature points to concentrated use of hedging instruments, positive valuation effects in some firms, and significant limitations related to market structure and financial regulation. The article concludes by identifying transferable insights for Colombia and highlighting areas that require further research, particularly regarding SMEs, hybrid hedging strategies, and trade-related real outcomes.
Keywords
Foreign exchange risk; hedging; international trade; emerging markets; Latin America; Colombia; firm value

INTRODUCTION

Foreign exchange risk is a major concern for internationally active firms because cross-border transactions, foreign-currency-denominated debt, and globally fragmented supply chains expose corporate cash flows to exchange-rate volatility. This challenge is especially relevant in emerging markets, where firms often face shallow derivatives markets, higher transaction costs, lower hedging sophistication, and persistent institutional frictions. Although the literature on corporate risk management has expanded, the evidence on firm-level foreign exchange hedging remains dispersed across several interconnected streams, including derivatives-based hedging, natural hedging, operational hedging, and policy- or market-structure constraints (Chugh et al., 2017; Alfaro et al., 2021; Pellegrino et al., 2023). The literature is also unevenly distributed. Much of the strongest evidence comes from large listed firms in relatively mature financial systems, while evidence from emerging economies is more scattered and often concentrated in reviews, institutional reports, and country-specific studies. In Latin America, the literature is comparatively limited but analytically relevant, particularly in Chile and Colombia, where foreign exchange exposure, derivatives usage, and firm-level outcomes have been examined from complementary perspectives. In Colombia, the available evidence suggests that hedging is concentrated among larger and more financially sophisticated firms, may be associated with positive valuation effects, and is shaped by market depth as well as by the interaction between foreign exchange policy and financial regulation (Alfaro et al., 2021; Giraldo-Prieto et al., 2017; Medellín and Restrepo-Ángel, 2025).

Against this background, this article develops a structured literature review of firm-level foreign exchange risk hedging in internationally active firms. It seeks to identify the main instruments and strategies discussed in the literature, synthesize the principal determinants of hedging adoption, examine the outcomes associated with hedging use, and assess the barriers that constrain access and effectiveness, especially in emerging markets. A further objective is to position the Colombian case within this broader body of evidence and derive transferable insights for future research and practice. More specifically, the review addresses six questions: which hedging instruments and strategies are most frequently examined; which firm-level, market-level, and institutional factors shape adoption; which outcomes are most consistently reported; which barriers constrain hedging in emerging markets; what evidence exists for Latin America and Colombia; and which research gaps remain, particularly with regard to SMEs, non-listed firms, hybrid strategies, and trade-related real outcomes (Chugh et al., 2017; Alfaro et al., 2021; Medellín and Restrepo-Ángel, 2025).

METHODS

Review Design and Scope

This article was developed as a structured literature review focused on firm-level foreign exchange risk hedging in internationally active firms. Rather than seeking exhaustive coverage of all available publications or estimating pooled causal effects, the review aims to provide an analytically organized synthesis of the most relevant literature and to interpret that evidence in relation to Colombia.

The review focuses on non-financial firms engaged in the international trade of goods, including exporters, importers, multinational enterprises, and other internationally active firms exposed to foreign exchange risk through trade flows, foreign-currency-denominated revenues and costs, or foreign-currency debt. The core analytical focus is firm-level foreign exchange hedging, including both financial and adjacent non-financial mitigation strategies. Financial instruments include currency forwards, futures, options, and swaps. Adjacent strategies include natural hedging, operational hedging, currency invoicing choices, and exchange-rate adjustment clauses or related contractual mechanisms. Although global in scope, the review places particular emphasis on emerging markets, Latin America, and Colombia.

Selection of the Literature

The literature corpus was defined through a purposive and theme-based selection process. Studies were retained on the basis of their relevance to the review objective, their analytical contribution to the understanding of firm-level foreign exchange hedging, and their usefulness for the comparative interpretation of emerging-market and Colombian evidence.

Sources were included when they met four conditions: they focused on non-financial firms with foreign-currency exposure; they examined foreign exchange hedging, exchange-rate exposure management, or related mitigation strategies; they were situated in the context of international trade, cross-border operations, foreign-currency revenues or costs, foreign-currency debt, or comparable forms of international business exposure; and they addressed at least one of the following dimensions: hedging instrument use, strategy choice, determinants of adoption, firm value, cash-flow volatility, financial performance, trade-related resilience, market barriers, regulatory constraints, or policy effects.

The review prioritizes studies published between 2010 and 2026, while allowing the selective inclusion of earlier studies when considered seminal and directly relevant to the analytical framing of the topic. Sources published in English, Spanish, or Portuguese were considered. The final corpus includes empirical quantitative, qualitative, and mixed-methods studies, structured reviews, high-relevance institutional reports, and selected working papers with clear analytical relevance.

Sources were excluded when they focused exclusively on macroeconomic hedging, sovereign risk management, or exchange-rate policy without a firm-level perspective; addressed only financial institutions, intermediaries, speculative traders, or portfolio investors without a clear connection to non-financial firms engaged in international trade; examined commodity hedging only without an explicit foreign exchange component or clear relevance to trade-related currency exposure; or consisted solely of legal, regulatory, or accounting discussions without empirical or analytical relevance to firm-level hedging behavior.

Analytical Procedure and Synthesis

After defining the review scope, the selected studies were organized into a structured analytical matrix. For each source, the review extracted information on author, year, country or region, study design, unit of analysis, sector, trade-related context, type of foreign exchange exposure, hedging instrument or mitigation strategy, study objective, determinants analyzed, outcome variables, principal findings, barriers reported, and implications for Colombia.

To facilitate interpretation, the literature was grouped into six thematic domains: hedging instruments and strategies; determinants of hedging adoption; reported outcomes of hedging use; barriers and institutional frictions in emerging markets; Latin American evidence; and Colombia-specific evidence. The synthesis was conducted in three stages. First, the literature was descriptively organized in order to identify the main types of studies, geographical coverage, and thematic emphases within the selected corpus. Second, a thematic synthesis was used to examine recurring patterns, divergences, and analytical concentrations across the literature. Third, an interpretive synthesis was developed to derive implications for Colombia by contrasting global and emerging-market evidence with the available Colombian literature on derivatives usage, firm value, market depth, and policy or regulatory effects.

Limitations

Because this study is based on a structured and purposively selected body of literature, it does not claim exhaustive coverage of all published evidence on the topic. Its contribution lies instead in the analytical organization and critical interpretation of relevant literature, with particular emphasis on emerging markets and Colombia.

RESULTS

Hedging Instruments and Strategies

The reviewed literature shows that firm-level foreign exchange risk management in internationally active firms is organized around two broad categories of strategies: financial hedging instruments and adjacent non-financial mitigation strategies. Across the literature, the most frequently examined financial instruments are currency forwards, futures, options, and swaps, while the main adjacent strategies include natural hedging, operational hedging, currency invoicing choices, and exchange-rate adjustment clauses (Alfaro et al., 2021; Chugh et al., 2017; Pellegrino et al., 2023).

Among financial instruments, currency forwards appear as the most recurrent and practically relevant mechanism in the literature, particularly for firms seeking to stabilize short-term foreign-currency cash flows linked to exports, imports, or foreign-currency liabilities. In emerging-market contexts, forwards are often described as the most accessible and operationally useful hedging tool, especially when firms face transaction exposure rather than more complex forms of long-term exchange-rate risk (Alfaro et al., 2021; Chugh et al., 2017). Their prominence also reflects their relative simplicity when compared with more sophisticated instruments, making them especially relevant in contexts where firms have limited hedging expertise or where derivatives markets are less developed (Nasriani, 2024; Zai and Mansur, 2024).

Currency options receive considerable attention in the literature because of their asymmetric payoff structure, which allows firms to protect themselves against adverse exchange-rate movements while preserving potential gains from favorable ones. However, options may be less widely used in practice because of their higher cost, lower liquidity, and greater informational complexity, especially in emerging markets (Chugh et al., 2017; Restrepo and Ramírez, 2021). In Colombia, this limitation is especially visible in the USD/COP options market, where low availability and transaction costs reduce the attractiveness of options as a widely accessible hedging tool (Restrepo and Ramírez, 2021). Even so, several applied Colombian studies suggest that options can be effective under specific conditions, especially for firms attempting to reduce downside risk while maintaining some upside potential in export or import operations (Gómez et al., 2016; Gutierrez-Salazar et al., 2022; Arango-Franco et al., 2020).

Swaps and futures also appear in the literature, although with less centrality than forwards and options, and their use seems to depend more strongly on financing structure, market depth, and internal capabilities (Alfaro et al., 2021; Bandaly et al., 2018). Beyond derivatives-based hedging, the literature consistently highlights the importance of natural hedging as one of the most common and feasible forms of exchange-rate risk mitigation, particularly in firms operating in emerging markets and in SMEs with limited access to formal derivatives. Natural hedging generally refers to the matching of foreign-currency inflows and outflows, the balancing of export revenues against import costs, or the denomination of contracts and liabilities in ways that reduce exchange-rate exposure (Chugh et al., 2017; Alfaro et al., 2021).

The literature also shows growing interest in operational hedging, understood as the use of supply chain flexibility, geographic diversification, sourcing adjustments, and broader organizational decisions to reduce exchange-rate sensitivity. Supply chain flexibility is presented as a "real option" that can reduce the firm's vulnerability to exchange-rate shocks by increasing its ability to reallocate operations, suppliers, or commercial flows across markets (Pellegrino et al., 2023). Similarly, integrated models of foreign exchange, commodity, and demand uncertainty suggest that firms often rely on combinations of

financial and operational responses rather than on isolated instruments (Bandaly et al., 2018; Lee and Vedenov, 2025).
The literature also considers currency invoicing and contractual adjustment mechanisms as relevant complementary strategies, especially in settings where derivatives markets are thin or costly. These mechanisms are particularly important for exporters and importers operating under volatile or restricted exchange-rate conditions (Barmak, 2025).
For Colombia, the available evidence points in the same direction. Derivatives-based hedging is present and relevant, particularly among larger and more sophisticated firms, but its broader adoption is constrained by market depth, product efficiency, and access conditions. As a result, the Colombian literature suggests that effective foreign exchange risk management often depends on combining formal hedging instruments with alternative mechanisms tailored to firm capabilities and market realities (Giraldo-Prieto et al., 2017; Restrepo and Ramírez, 2021; Romero et al., 2019).

Table 1. Main hedging instruments and strategies identified in the literature

Category	**Main instruments/strategies**	**Main pattern in the literature**
Financial hedging	Forwards, futures, options, swaps	Forwards are the most recurrent and practical instrument; options are attractive but often costly and less liquid
Natural hedging	Matching FX inflows and outflows, balancing revenues and costs	Common in emerging markets and SMEs with limited access to derivatives
Operational hedging	Supply chain flexibility, sourcing shifts, geographic diversification	Increasingly recognized as a complement to financial hedging
Contractual and invoicing strategies	Currency invoicing, exchange-rate adjustment clauses, contract redesign	Relevant in volatile or restricted environments where derivatives are less accessible
Hybrid strategies	Combination of financial, natural, operational, and contractual tools	Particularly common in emerging markets and institutionally constrained setting

Determinants of Hedging Adoption
The reviewed literature indicates that the adoption of foreign exchange hedging by internationally active firms is shaped by a combination of firm-level characteristics, market conditions, and institutional factors. Rather than depending on a single variable, hedging decisions emerge from the interaction between the firm's degree of foreign-currency exposure, its internal financial capabilities, the cost and availability of hedging instruments, and the broader regulatory and market environment in which it operates (Chugh et al., 2017; Alfaro et al., 2021; Lestari and Adekunle, 2024).
One of the most recurrent determinants in the literature is firm size. Larger firms are consistently more likely to adopt foreign exchange hedging strategies because they typically have greater international exposure, more developed treasury functions, better access to financial intermediaries, and stronger organizational capacity to design and implement risk management policies. This pattern is particularly relevant in emerging markets, where access to formal hedging instruments is often uneven and where smaller firms face

structural disadvantages in terms of information, scale, and bargaining power (Dömötör, 2023; Chugh et al., 2017; Alfaro et al., 2021; Nasriani, 2024; Romero et al., 2019).

A second major determinant is the degree and type of foreign-currency exposure. Firms with higher participation in exports, imports, foreign-currency debt, or cross-border operating flows are more likely to hedge because exchange-rate fluctuations affect their revenues, costs, financing conditions, or balance-sheet positions more directly. The literature suggests that firms often respond more strongly to transaction-related and cash-flow exposure than to broader and more diffuse forms of economic exposure, since the former are easier to identify, quantify, and manage through available instruments (Alfaro et al., 2021; Chau et al., 2023).

The literature also emphasizes the role of financial sophistication and internal capabilities. Firms with more developed treasury functions, stronger managerial expertise, and better risk measurement systems are generally more capable of using derivatives and other formal hedging tools. By contrast, firms with limited technical knowledge or weak financial structures are more likely to rely on simpler or more informal strategies, such as natural hedging or ad hoc contractual adjustments (Chugh et al., 2017; Nasriani, 2024; Zai and Mansur, 2024). This distinction is especially important for SMEs, where the decision not to hedge may reflect not only cost considerations but also limitations in managerial capacity, information processing, and confidence in using complex financial instruments (Romero et al., 2019; Nasriani, 2024).

Another important determinant is the cost and accessibility of hedging instruments. Even where firms recognize the importance of exchange-rate risk management, formal hedging may remain limited if derivatives markets are shallow, transaction costs are high, maturities are too short, or available products do not match firms' actual exposure profiles. In such contexts, adoption is constrained not by the absence of need, but by the practical limits of market access and financial intermediation (Lestari and Adekunle, 2024; Restrepo and Ramírez, 2021).

The literature also points to leverage, financing structure, profitability, governance quality, and managerial attitudes as relevant determinants, although the evidence is less consistent than for firm size, exposure, and market access. In general, these factors appear to influence whether hedging becomes a systematic organizational practice rather than an occasional or reactive response to exchange-rate volatility (Wanda et al., 2024; Zeng, 2024; Zakaria, 2023).

In the Colombian case, the available evidence suggests that hedging is more common among larger firms, firms with greater foreign-currency exposure, and firms with higher levels of financial sophistication. At the same time, broader adoption is limited by product inefficiencies, shallow market depth, and the interaction between policy interventions, prudential regulation, and firms' effective access to hedging mechanisms (Giraldo-Prieto et al., 2017; Restrepo and Ramírez, 2021; Medellín and Restrepo-Ángel, 2025). For SMEs, the literature suggests that lack of knowledge, weaker organizational capabilities, and limited access to suitable instruments remain major barriers to adoption (Romero et al., 2019).

Overall, the literature indicates that foreign exchange hedging adoption is best understood as the outcome of a multi-level decision structure. Firms hedge not only because they face exchange-rate risk, but because they possess the necessary scale, capabilities, incentives, and institutional opportunity to do so (Alfaro et al., 2021; Chugh et al., 2017; Medellín and Restrepo-Ángel, 2025).

Reported Outcomes of Hedging Use

The reviewed literature suggests that the outcomes associated with foreign exchange hedging are most frequently discussed in relation to firm value, cash-flow volatility, financial performance, and, to a lesser extent, trade-related resilience. Although the strength and direction of these effects vary across contexts, the dominant pattern in the literature is that hedging is generally associated with improved financial stability and, under certain conditions, with higher firm value (Giraldo-Prieto et al., 2017; León et al., 2009; Almas et al., 2021).

One of the most recurrent findings concerns the relationship between hedging and firm value. Several studies suggest that firms using derivatives or other formal hedging strategies may benefit from a valuation premium, particularly when hedging reduces financial distress costs, stabilizes expected cash flows, or improves external financing conditions. In this sense, hedging is not only interpreted as a defensive mechanism against exchange-rate volatility, but also as a practice that may enhance investor confidence and reduce uncertainty regarding future earnings (Almas et al., 2021; Giraldo-Prieto et al., 2017).

The Colombian literature provides especially relevant evidence on this point. Studies on Colombian listed firms suggest that derivatives-based hedging may be associated with a positive effect on market valuation, particularly in firms exposed to foreign exchange risk and operating under financially sophisticated conditions (Giraldo-Prieto et al., 2017; León et al., 2009).

A second major outcome emphasized in the literature is the reduction of cash-flow volatility. This is one of the central justifications for hedging across both conceptual and empirical studies. By stabilizing future exchange rates or reducing net exposure through complementary strategies, firms may decrease the variability of operating cash flows, improve predictability, and facilitate medium-term financial planning (Alfaro et al., 2021; Chugh et al., 2017).

The literature also links hedging to broader measures of financial performance, although the evidence here is more mixed than in the case of cash-flow stabilization. Some studies suggest that hedging improves performance by protecting margins, reducing financing costs, and preventing losses associated with large exchange-rate swings. Others indicate that the effect depends heavily on the design of the hedging strategy, the timing of implementation, the cost of the instruments used, and the match between the hedging tool and the actual exposure faced by the firm (Zakaria, 2023; Zeng, 2024).

Applied studies from Colombia suggest that options and structured option portfolios can perform better than alternative strategies under specific exchange-rate scenarios because they reduce downside exposure while preserving potential gains in favorable conditions (Gómez et al., 2016; Gutierrez-Salazar et al., 2022). At the same time, the Colombian literature also makes clear that not all instruments perform equally well in practice, and that market inefficiencies may reduce the realized benefits of formal hedging strategies (Restrepo and Ramírez, 2021).

Evidence on trade-related resilience is more limited, but some studies suggest that risk mitigation may support continuity under conditions of high uncertainty, especially in crisis settings and volatile emerging-market environments (Crozet et al., 2021; Barmak, 2025). The literature also indicates that outcomes vary across firms and environments, with stronger benefits typically observed in larger and more sophisticated firms operating in deeper markets (Lestari and Adekunle, 2024; Medellín and Restrepo-Ángel, 2025).

For Colombia, the available literature supports a cautious but meaningful conclusion: hedging appears capable of generating positive outcomes, particularly in terms of valuation and risk reduction, but those gains are unevenly distributed and conditioned by market depth, product efficiency, and firm sophistication (Giraldo-Prieto et al., 2017; León et al., 2009; Restrepo and Ramírez, 2021). Overall, the literature indicates that the most robustly documented outcomes of foreign exchange hedging are higher valuation potential and lower cash-flow volatility, while evidence on broader performance and trade-related effects remains more context-dependent and less uniformly established (Alfaro et al., 2021; Giraldo-Prieto et al., 2017; Medellín and Restrepo-Ángel, 2025).

Barriers and Institutional Frictions

The reviewed literature shows that the adoption and effectiveness of foreign exchange hedging are constrained not only by firm-level limitations, but also by broader market and institutional frictions. These barriers are especially visible in emerging markets, where firms often face less developed derivatives markets, higher transaction costs, lower product availability, and weaker organizational capabilities for managing exchange-rate exposure (Chugh et al., 2017; Lestari and Adekunle, 2024; Nasriani, 2024).

One of the most recurrent barriers identified in the literature is limited market depth. In many emerging-market settings, derivatives markets remain shallow, with restricted liquidity, short maturities, and limited instrument variety. This reduces firms' ability to find hedging products that match the timing and structure of their actual exposure, particularly when firms require longer maturities or more tailored contracts (Lestari and Adekunle, 2024; Zai and Mansur, 2024).

A second major barrier is the cost of hedging instruments and related transactions. The literature repeatedly notes that pricing, spreads, premiums, and operational costs can substantially reduce the attractiveness of formal hedging, especially for smaller firms. This is particularly relevant in markets where options or more sophisticated instruments are available only at relatively high cost or in limited quantities (Chugh et al., 2017; Restrepo and Ramírez, 2021).

The literature also highlights knowledge and capability constraints as a central barrier, particularly among SMEs and non-listed firms. Smaller firms frequently lack specialized treasury departments, formal exposure measurement systems, and managerial expertise in derivatives-based risk management. As a consequence, their exchange-rate risk management practices tend to be more informal, reactive, or dependent on natural hedging and contractual adjustments rather than on systematic financial hedging strategies (Chugh et al., 2017; Nasriani, 2024; Romero et al., 2019).

Another relevant constraint concerns institutional and regulatory frictions. The literature indicates that monetary policy frameworks, prudential rules, exchange-rate interventions, and the overall architecture of domestic financial markets can shape both the incentives and the effective capacity of firms to hedge. In emerging markets, these institutional conditions may generate unintended effects by distorting prices, altering market liquidity, or changing the relative attractiveness of alternative risk-management strategies (Lestari and Adekunle, 2024; Medellín and Restrepo-Ángel, 2025).

The Colombian literature illustrates these frictions with particular clarity. Studies suggest that the local derivatives market faces constraints related to liquidity, instrument efficiency, and access conditions, especially in the case of USD/COP options (Restrepo and Ramírez, 2021). Recent evidence also indicates that foreign exchange policy and prudential regulation may shape firms' incentives and opportunities to hedge in uneven ways, with different consequences for large and small firms (Medellín and Restrepo-Ángel, 2025).

The literature also suggests that barriers tend to be cumulative rather than isolated. A firm may face foreign exchange risk, but if it is small, financially unsophisticated, operating in a shallow market, and exposed to costly or unsuitable instruments, then multiple constraints reinforce one another and reduce the probability of formal hedging adoption (Chugh et al., 2017; Lestari and Adekunle, 2024; Rubaj, 2021).

Overall, the literature indicates that foreign exchange hedging barriers should be interpreted as a multi-layered problem involving market structure, product design, firm capabilities, and regulatory context. For Colombia, this implies that improving hedging outcomes is not merely a matter of encouraging firms to hedge more, but also of addressing the structural conditions that shape the accessibility, affordability, and effectiveness of hedging instruments. This is particularly important for SMEs and non-listed firms, which appear to remain at the margins of formal hedging markets despite having relevant exchange-rate exposure (Romero et al., 2019; Restrepo and Ramírez, 2021; Medellín and Restrepo-Ángel, 2025).

Table 2. Main barriers and institutional frictions identified in the literature

Barrier	Main pattern in the literature
Market depth limitations	Shallow derivatives markets reduce liquidity, maturity options, and product variety
High transaction costs	Pricing, spreads, and premiums discourage formal hedging, especially for SMEs
Knowledge and capability gaps	Limited treasury expertise and weak exposure measurement reduce adoption
Institutional and regulatory frictions	Policy and regulation shape market liquidity, incentives, and access to hedging
Governance constraints	Weak risk culture and managerial hesitation can limit systematic hedging
Cumulative barriers	Firm-level and market-level constraints often reinforce one another

Latin American Evidence

The Latin American literature on firm-level foreign exchange risk hedging remains more limited than the evidence available for larger or more mature financial systems, yet it provides an analytically important regional perspective for understanding how exchange-rate risk is managed under conditions of market heterogeneity, external vulnerability, and uneven financial development. Within this regional body of work, the strongest evidence comes from studies that examine Chile and Colombia, while broader regional analyses provide complementary insights into the role of foreign exchange hedging in Latin American financial and corporate settings (Alfaro et al., 2021; Alfaro and Goldberger, 2024; Giraldo-Prieto et al., 2017).

Chile is especially useful as a regional reference point because it offers relatively detailed evidence on currency hedging at the firm level. The Chilean case shows that internationally active firms use foreign exchange derivatives primarily to manage cash-flow exposure, particularly in relation to short-term financing and foreign-currency operating flows. At the same time, the evidence suggests that natural hedging is not always sufficient to offset transaction exposure, which increases the importance of formal financial instruments for firms with significant cross-border activity (Alfaro et al., 2021).

The regional literature also shows that, even when formal hedging instruments are available, adoption tends to be concentrated among larger and more sophisticated firms. This pattern resembles the broader emerging-market evidence and suggests that firm size, financial capability, and market access play a decisive role across Latin American contexts. At the same time, the effectiveness and use of hedging instruments depend heavily on liquidity, pricing efficiency, and the broader degree of local market development (Alfaro et al., 2021; Chugh et al., 2017; Alfaro and Goldberger, 2024).

Overall, the Latin American evidence remains limited in volume but significant in analytical value. It confirms that foreign exchange hedging in the region is closely associated with internationally active firms, concentrated access to formal instruments, and strong dependence on market structure and institutional context. It also provides a useful regional bridge between the broader emerging-market literature and the more specific Colombian evidence reviewed in this article (Alfaro et al., 2021; Alfaro and Goldberger, 2024; Giraldo-Prieto et al., 2017).

Colombian Evidence

The Colombian literature on firm-level foreign exchange risk hedging, although more limited in volume than the broader international evidence, provides a particularly relevant body of work for understanding how exchange-rate risk is managed in a context characterized by uneven market depth, differentiated firm access to financial instruments, and a significant interaction between corporate behavior and public policy. Taken together, the reviewed studies suggest that foreign exchange hedging in Colombia is concentrated among larger and more financially sophisticated firms, is associated in some cases with positive valuation effects, and remains constrained by both market inefficiencies and institutional frictions (Giraldo-Prieto et al., 2017; Restrepo and Ramírez, 2021; Medellín and Restrepo-Ángel, 2025).

One of the strongest lines of evidence in the Colombian literature concerns the relationship between hedging and firm value. Studies on listed and non-financial firms suggest that the use of foreign currency derivatives may be associated with a positive market valuation effect, particularly in firms with meaningful exposure to exchange-rate risk and with sufficient organizational capacity to implement hedging strategies effectively (León et al., 2009; Giraldo-Prieto et al., 2017). A second major contribution is the emphasis on balance-sheet exposure and currency mismatches. The reviewed evidence shows that exchange-rate shocks may have important effects on non-financial firms through their impact on foreign-currency liabilities, debt-service capacity, and investment decisions (Barajas et al., 2016; Barajas et al., 2017).

The literature also indicates that foreign exchange hedging in Colombia is strongly conditioned by market structure and product availability. Although derivatives-based hedging is present in the Colombian market, access to suitable instruments is uneven, and certain products appear to be significantly constrained by limited liquidity, inefficiency, or high transaction costs, especially in the case of the USD/COP options market (Restrepo and Ramírez, 2021).

The reviewed studies suggest that derivatives-based hedging is more common among larger firms, firms with stronger financial capabilities, and firms more deeply integrated into international trade and foreign-currency financing structures (Giraldo-Prieto et al., 2017; Medellín and Restrepo-Ángel, 2025). By contrast, smaller firms and SMEs appear to remain more exposed to exchange-rate risk without equivalent access to formal hedging tools. The Colombian evidence suggests that smaller firms with exchange-rate exposure often lack formal risk-management systems, specialized treasury functions, and familiarity with derivatives-based hedging, relying instead on informal mechanisms, operational adjustments, or simplified contractual strategies (Romero et al., 2019).

Recent work also suggests that exchange-rate policy and prudential regulation can shape firms' access to hedging instruments and alter the incentives to hedge in ways that are not evenly distributed across firms (Medellín and Restrepo-Ángel, 2025). Applied studies on exporters and importers further suggest that hedging effectiveness in Colombia varies by instrument design, exchange-rate scenario, and actual market conditions (Gómez et al., 2016; Gutierrez-Salazar et al., 2022; Arango-Franco et al., 2020; Arcila and Restrepo, 2021).

Overall, the Colombian literature provides a coherent picture of a hedging environment characterized by relevance, concentration, and constraint. Foreign exchange risk is clearly recognized as a significant corporate concern, and formal hedging can generate meaningful benefits, especially in larger and more sophisticated firms. At the same time, access to those benefits remains uneven because of market depth limitations, product inefficiencies, organizational capability gaps, and the influence of policy and regulatory conditions (Giraldo-Prieto et al., 2017; Restrepo and Ramírez, 2021; Medellín and Restrepo-Ángel, 2025).

Table 3. Main patterns in the Colombian evidence

Pattern	Main implication
Positive valuation effects	Some studies associate derivatives-based hedging with higher firm value in Colombian firms
Exposure and balance-sheet vulnerability	Exchange-rate shocks affect firms through foreign-currency liabilities and investment capacity
Concentrated access	Formal hedging is more common among larger and more financially sophisticated firms
Product and market limitations	Instrument efficiency and market depth constrain the practical use of some hedging tools
SME gap	Smaller firms show lower sophistication and more limited access to formal hedging
Policy and regulatory effects	Exchange-rate policy and prudential regulation influence liquidity, incentives, and access to hedging
Applied strategic diversity	Case studies show that hedging effectiveness depends on instrument choice, scenario, and implementation conditions

DISCUSSION

The reviewed literature shows that foreign exchange risk hedging in internationally active firms is best understood as a multi-dimensional practice shaped by the interaction of firm characteristics, market structure, and institutional conditions. Across the literature, the most consistent patterns are the central role of derivatives-based hedging, the complementary importance of natural and operational strategies, and the uneven distribution of hedging access across firms and contexts (Alfaro et al., 2021; Chugh et al., 2017; Pellegrino et al., 2023).

A second relevant pattern is that the benefits of hedging are real but conditional. The literature most consistently associates hedging with lower cash-flow volatility and, in some cases, with positive valuation effects, but these outcomes depend on firm size, financial sophistication, product suitability, and market depth (Giraldo-Prieto et al., 2017; León et al., 2009; Almas et al., 2021). This is especially important in emerging markets, where the use of formal hedging instruments is often constrained by shallow derivatives markets, higher costs, and weaker organizational capabilities (Lestari and Adekunle, 2024; Nasriani, 2024).

The Latin American and Colombian evidence reinforces this interpretation. Rather than showing a fundamentally different logic of hedging, the regional literature suggests that internationally active firms in Latin America face the same core challenges identified in the broader literature, but under more restrictive market and institutional conditions (Alfaro et al., 2021; Alfaro and Goldberger, 2024). In Colombia, the literature points to concentrated adoption among larger firms, meaningful evidence of valuation effects, and significant constraints linked to product efficiency, market depth, and the interaction between exchange-rate policy and financial regulation (Giraldo-Prieto et al., 2017; Restrepo and Ramírez, 2021; Medellín and Restrepo-Ángel, 2025).

Taken together, these findings suggest that the Colombian case should be interpreted as part of a broader emerging-market pattern in which foreign exchange risk management depends not only on exposure, but also on the capacity of firms and markets to convert that exposure into actionable hedging strategies. This also highlights the main research gaps identified in the review, particularly the limited evidence on SMEs, non-listed firms, hybrid hedging strategies, and trade-related real outcomes.

CONCLUSION

This review examined the literature on firm-level foreign exchange risk hedging in internationally active firms, with particular attention to emerging markets, Latin America, and Colombia. The evidence suggests that hedging is most commonly organized around a combination of financial instruments and complementary non-financial strategies, and that its adoption depends on firm size, exposure profile, financial sophistication, market access, and institutional conditions. The most consistently reported outcomes are lower cash-flow volatility and, in some contexts, positive effects on firm value.

For Colombia, the literature indicates that foreign exchange hedging is relevant but unevenly distributed. Its use is concentrated among larger and more sophisticated firms, while broader adoption remains constrained by market depth, instrument efficiency, organizational capabilities, and policy-related frictions. Future research should therefore move beyond listed firms and valuation outcomes to examine SMEs, hybrid strategies, and the relationship between hedging and real trade performance in the Colombian context.

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