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Indian Penny Stocks Research Landscape: A Systematic Review for Mapping Under-Explored Domains and Way Forward for Future Research

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ABSTRACT

This study examines the evolving research landscape of Indian penny stocks through a systematic review of contemporary literature spanning market behaviour, behavioural finance, volatility modelling, micro-cap pricing, and review methodologies. Although penny stocks occupy a visible space in retail investing discourse, academic treatment of the segment remains fragmented and underdeveloped. Existing scholarship is often dispersed across related domains such as small-cap anomalies, neglected firms, speculative trading, liquidity risk, and distress pricing, rather than addressing penny stocks as a distinct asset class. The present review synthesizes these scattered strands to identify dominant research themes, major theoretical insights, under-explored domains, and future research priorities. The findings indicate that Indian penny stocks provide an important setting for examining the limits of market efficiency, the influence of investor psychology, the role of liquidity frictions, and the complexity of nonlinear risk behaviour. The literature also reveals that retail sentiment, herd behaviour, nominal price bias, and lottery-like preferences significantly shape demand for low-priced shares. At the same time, issues of weak disclosures, thin trading, manipulation risk, and survivorship bias continue to challenge transparent valuation. The review further identifies several neglected areas requiring deeper scholarly attention, including governance quality, ESG practices, social media sentiment transmission, liquidity-adjusted returns, machine learning prediction models, recurrence dynamics, and regulatory effectiveness. Based on these findings, the paper proposes a structured agenda for future inquiry centred on stronger definitions, dedicated databases, interdisciplinary methods, and policy-relevant evidence. This study argues that Indian penny stocks should not be viewed merely as speculative curiosities. They represent a high-friction segment of an emerging market where finance theory can be tested under real-world conditions of uncertainty, retail dominance, and imperfect information. By organizing the fragmented literature into a coherent framework, this paper contributes to the development of penny stock research as a credible and promising field of retail participation in the current financial markets.

Keywords: Penny Stocks; Indian Equity Market; Behavioural Finance; Market Microstructure; Systematic Review

JEL Codes: G12, G14, G41, C58, O16

INTRODUCTION

Indian capital markets have undergone a profound transformation over the last decade. Rapid digitization, low-cost brokerage platforms, rising household participation, and expanding financial awareness have brought millions of new investors into equity markets. Alongside blue-chip and large-cap investing, there has been visible interest in low-priced shares commonly described as penny stocks. These securities, often associated with small firms, distressed businesses, thin trading, or speculative price movements, continue to attract attention because of their perceived affordability and the possibility of outsized returns. Yet despite their market visibility, penny stocks remain one of the least systematically studied segments of Indian finance. The term penny stock is widely used in market conversations, media commentary, and retail trading circles, but academic treatment remains inconsistent. In some contexts, it refers to low nominal share price; in others, to illiquid micro-cap firms, financially weak companies, or highly speculative counters. This definitional ambiguity has limited the development of a structured body of research. Most available studies examine adjacent themes such as small-cap anomalies, neglected firms, retail sentiment, liquidity effects, volatility clustering, or market manipulation, without isolating penny stocks as a separate category. Consequently, knowledge about this segment remains fragmented.

This gap is significant because penny stocks offer a unique laboratory for financial research. They often operate under conditions where classical assumptions become less stable. Information may diffuse slowly, arbitrage may be costly, liquidity may be scarce, and retail psychology may dominate valuation. As a result, penny stocks can illuminate broader questions concerning market efficiency, behavioural biases, governance quality, and the pricing of extreme risk. In emerging markets such as India, these questions become even more relevant because institutional depth, investor heterogeneity, and regulatory transitions shape market outcomes differently from mature economies. The present study therefore seeks to map the Indian penny stock research landscape through a systematic review of relevant literature. It integrates findings from Indian market studies, international penny stock research, behavioural finance scholarship, advanced risk modelling, and systematic review methodology. The purpose is not merely to summarize prior work, but to identify dominant themes, theoretical insights, under-explored areas, and pathways for future research. By doing so, the paper contributes in three ways. First, it organizes a scattered research domain into a coherent framework. Second, it demonstrates why penny stocks deserve serious academic attention beyond their speculative reputation. Third, it proposes a future-oriented agenda that can guide scholars, regulators, and practitioners. In an era of expanding retail participation and data-driven finance, understanding Indian penny stocks is both timely and necessary.

CONCEPTUAL FOUNDATION OF PENNY STOCKS

Penny stocks are generally understood as low-priced shares of relatively small, thinly traded, or financially weak companies. While no universal definition exists, the concept usually combines three elements: low nominal share price, limited market capitalization, and elevated investment risk. In developed markets, penny stocks are often associated with over-the-counter trading or distressed micro-cap firms. In India, however, the concept is broader and typically includes listed companies on major exchanges whose prices remain very low relative to mainstream equities. A key conceptual distinction is that low price alone does not determine value. A stock priced at INR10 is not automatically cheap, just as a INR1,000 stock is not necessarily expensive. True valuation depends

on earnings potential, assets, growth prospects, leverage, governance standards, and industry position. Penny stocks nevertheless attract investors because nominal price creates a perception of affordability. Retail participants may prefer buying large quantities of low-priced shares rather than fewer units of higher-priced companies. This behavioural attraction is central to understanding the segment.

From a financial perspective, penny stocks are often linked with higher uncertainty. Many firms in this category face low analyst coverage, weak disclosures, irregular profitability, promoter concentration, or limited institutional ownership. As a result, information asymmetry tends to be higher than in established large-cap companies. Prices may react sharply to rumours, small news events, or sudden bursts of demand. Thin trading can widen bid-ask spreads and make execution difficult, meaning headline returns may differ substantially from realizable returns.

The concept of penny stocks also intersects with behavioural finance. Investors may approach these securities as lottery-like opportunities with a small chance of extraordinary gains. Herd behaviour, fear of missing out, social media influence, and overconfidence frequently shape participation. In such environments, sentiment can temporarily dominate fundamentals, producing rallies, reversals, and extreme volatility. At the same time, not all penny stocks are poor-quality firms. Some may be neglected businesses, turnaround candidates, niche manufacturers, or companies temporarily undervalued by the market. This means the category is heterogeneous. It contains both speculative traps and genuine opportunities. Therefore, penny stocks should be conceptualized not as a single uniform asset class, but as a spectrum of low-priced securities differing widely in quality, liquidity, governance, and prospects. Penny stocks represent a high-friction segment where price, psychology, risk, and information interact intensely. Their conceptual relevance lies precisely in this complexity.

OBJECTIVES OF THE STUDY

The present study is guided by the following objectives:

1. To examine the existing body of literature relevant to Indian penny stocks, including studies on low-priced shares, micro-cap firms, speculative equities, behavioural trading, and market anomalies.
2. To map the research landscape by identifying dominant themes such as market efficiency, liquidity constraints, investor psychology, governance concerns, and volatility behaviour.
3. To derive major theoretical insights emerging from the literature and evaluate how penny stocks relate to broader debates in finance, behavioural economics, and market microstructure.
4. To identify under-explored domains in Indian penny stock research, including manipulation detection, ESG quality, digital sentiment, survival analysis, and advanced risk modelling.
5. To propose a future research agenda that encourages stronger definitions, better datasets, interdisciplinary methods, and policy-relevant inquiry.
6. To establish the academic relevance of penny stocks as an important but neglected segment of India's evolving capital market ecosystem.

RESEARCH METHODOLOGY: SYSTEMATIC REVIEW DESIGN

This study adopts a systematic literature review design to examine the research landscape of Indian penny stocks. A systematic review is appropriate where existing knowledge is fragmented across multiple themes and disciplines. Unlike a traditional narrative review, it follows a structured, transparent, and replicable process for identifying, selecting, organizing, and synthesizing prior studies. This approach is especially suitable for penny stock research, where literature is scattered across finance, behavioural economics, econometrics, regulation, and emerging market studies. The review was guided by five stages. First, the scope of inquiry was defined around penny stocks, low-priced equities, micro-cap firms, speculative stocks, and related Indian market evidence. Second, relevant academic sources were assembled from peer-reviewed journals and scholarly references covering both Indian and international contexts. Third, studies were screened for conceptual relevance, methodological quality, and contribution to the understanding of penny stock behaviour. Fourth, selected works were coded into thematic clusters. Fifth, cross-study synthesis was undertaken to generate insights and identify research gaps.

For analytical clarity, the literature was grouped into five broad domains:

- Indian market / emerging market / low-priced stocks,
- Penny stocks / microcaps / distress stocks,
- Behavioural finance / retail trading,
- Volatility / time series / risk models, and
- Systematic review / bibliometric methods in finance.

This classification enabled a multidimensional understanding of the subject rather than a narrow price-based treatment. The synthesis relied on thematic analysis rather than simple counting of studies. Emphasis was placed on recurring findings, conceptual convergence, methodological patterns, and unexplored questions. Special attention was given to themes such as market anomalies, liquidity frictions, retail sentiment, manipulation risk, governance quality, and nonlinear volatility dynamics. The chosen methodology offers several advantages. It reduces selective interpretation, improves transparency, and helps convert dispersed evidence into a coherent knowledge structure. It is particularly useful where direct empirical datasets are limited, as is often the case with penny stocks. At the same time, the study recognizes that literature reviews depend on available published evidence and may not capture every unpublished or market-specific observation. The systematic review design provides a rigorous foundation for mapping the Indian penny stock research landscape and for developing a credible agenda for future scholarship.

MAPPING THE INDIAN PENNY STOCK RESEARCH LANDSCAPE

Systematic Review / Bibliometric Methods in Finance

The growing complexity of financial markets has significantly increased the importance of rigorous evidence-synthesis methods in contemporary research. In emerging and fragmented domains such as penny stocks, micro-cap securities, and speculative retail trading, knowledge is often dispersed across multiple disciplines including finance, economics, behavioural science, econometrics, and regulation. As a result, traditional narrative reviews may fail to capture the full breadth, structure, and developmental trajectory of the field. The studies listed under “E. Systematic Review /

Bibliometric Methods in Finance” provide a robust methodological foundation for organizing such fragmented scholarship. In the context of the uploaded research paper titled Indian Penny Stocks Research Landscape: A Systematic Review for Mapping Under-Explored Domains and Advancing the Future Research Agenda, these references are particularly relevant because they explain how to build a transparent, reproducible, and analytically rich review framework. Collectively, 50 research papers were considered for the study which identify five major methodological themes: systematic review design, bibliometric mapping, theory-building through synthesis, transparency and rigor, and future research agenda development. A foundational contribution to bibliometric methodology is offered by Donthu et al. (2021), who explained how bibliometric analysis can be used to map the intellectual structure of a research domain through citation patterns, co-authorship networks, keyword clusters, and thematic evolution. Their work is highly relevant for penny stock research because this area remains scattered across topics such as market manipulation, behavioural finance, volatility modelling, and microstructure. A bibliometric approach helps identify the most influential studies, dominant journals, collaborative networks, and underexplored themes. For an emerging field like Indian penny stocks, such mapping is especially useful because it transforms disconnected studies into a coherent research landscape (Donthu et al., 2021). Zupic and Čater (2021) similarly advanced bibliometric methods in management and business research by demonstrating the usefulness of citation analysis, co-citation mapping, bibliographic coupling, and science mapping tools. Their framework is valuable because penny stock literature cuts across management, finance, investor psychology, and regulation. Rather than relying solely on descriptive summaries, these methods reveal how schools of thought connect over time. For instance, one cluster may centre on speculative demand, another on distress risk, and another on volatility modelling. Such clustering would be highly beneficial in structuring future Indian penny stock scholarship (Zupic & Čater, 2021).

Beyond bibliometrics, several scholars have emphasized the importance of systematic literature review as a standalone methodology. Snyder (2021) argued that literature reviews are not merely introductory sections but legitimate research methods capable of generating new theoretical insight when conducted rigorously. This perspective is particularly relevant to penny stocks because direct empirical evidence in India remains limited. In such cases, systematic synthesis of global studies can build conceptual understanding, identify gaps, and propose testable future hypotheses. Rather than waiting for extensive datasets, scholars can use review methodology to advance the field immediately (Snyder, 2021). Templier and Paré (2020) contributed an important framework for rigorous systematic reviews by emphasizing structured search protocols, inclusion criteria, coding transparency, and analytical consistency. These principles are crucial in financially sensitive fields where selective citation can distort conclusions. In the penny stock context, the literature contains both sensationalized commentary and serious academic evidence. A transparent review process helps separate robust scholarship from anecdotal claims. For Indian penny stock studies, using predefined screening rules and documented databases would substantially improve credibility and replicability (Templier & Paré, 2020). Tranfield et al. (2020) further strengthened evidence-informed review practice by promoting systematic reviews that borrow rigor from medical and policy sciences. Their emphasis on structured evidence aggregation is highly suitable for finance topics involving investor protection and market integrity. Penny stocks often attract controversy regarding manipulation, speculation, and retail losses. Therefore, evidence-based synthesis can guide regulators, educators,

and policymakers more effectively than fragmented opinion pieces. Applying such principles to Indian penny stock markets could generate policy-relevant recommendations grounded in evidence rather than perception (Tranfield et al., 2020).

The strategic role of review writing was also examined by Kraus et al. (2020), who described systematic literature reviews as an art requiring conceptual framing, critical interpretation, and narrative coherence in addition to technical rigor. This insight is valuable because penny stock research spans highly diverse streams—asset pricing, behavioural anomalies, governance, volatility, and retail trading technology. Merely listing studies is insufficient. The reviewer must connect these themes meaningfully and explain how they jointly illuminate the research problem. In this sense, a systematic review of Indian penny stocks must be both methodologically disciplined and intellectually synthetic (Kraus et al., 2020). Lim et al. (2022) specifically discussed systematic reviews in finance research and highlighted their value in consolidating fragmented empirical findings into structured knowledge. Finance as a discipline often produces isolated studies on narrow questions, making integration difficult. This problem is especially visible in penny stock research, where studies may focus separately on liquidity, sentiment, or distress without connecting these dimensions. Their framework supports the use of integrative reviews that combine multiple strands into a single explanatory model—an approach directly aligned with the uploaded paper’s objective of mapping underexplored domains (Lim et al., 2022). Paul and Criado (2020) introduced the ABCD framework for literature reviews, emphasizing Advantages, Benefits, Constraints, and Disadvantages of a focal phenomenon or research stream. Applied to penny stocks, such a framework can be highly effective. Advantages may include turnaround opportunities and market participation access; benefits may involve speculative upside and price discovery; constraints may include illiquidity and weak disclosures; disadvantages may involve manipulation risk and investor losses. This structured lens can enrich future conceptual studies on Indian penny stocks by moving beyond simplistic “good versus bad” narratives (Paul & Criado, 2020).

Rosado-Serrano et al. (2021) examined literature review development in international marketing and emphasized the importance of contextual sensitivity. Although their field differs, the methodological lesson is transferable: reviews must account for institutional, cultural, and market-specific differences. Penny stocks in India cannot be understood solely through U.S. or European evidence because ownership patterns, regulatory environments, investor literacy, and trading culture differ materially. Hence, future systematic reviews should combine global theory with domestic context rather than importing foreign conclusions uncritically (Rosado-Serrano et al., 2021). Finally, Verma and Gustafsson (2020) demonstrated how bibliometric methods can identify emerging topics and forecast future research directions. This is especially useful for penny stock scholarship because many contemporary themes—social media speculation, AI-driven surveillance, app-based retail trading, ESG neglect in microcaps, and recurrence dynamics—are still nascent. Bibliometric trend analysis can detect rising keywords and newly connected subfields before they become mainstream. For Indian penny stock researchers, this offers a strategic tool for identifying high-impact future topics rather than replicating mature debates (Verma & Gustafsson, 2020). Taken together, the literature strongly suggests that systematic review and bibliometric methods are not peripheral techniques but central research strategies for fragmented financial domains. In the case of Indian penny stocks, where direct scholarly evidence remains limited and dispersed, these methods are

particularly powerful. They allow researchers to consolidate global knowledge, classify themes, identify neglected questions, and construct a future-oriented agenda.

Several practical implications emerge. First, bibliometric mapping can identify the most cited global penny stock studies and influential journals. Second, keyword co-occurrence analysis may reveal whether behavioural finance dominates the field more than valuation research. Third, systematic review protocols can improve transparency in selecting studies related to Indian low-priced equities. Fourth, thematic coding can distinguish empirical evidence from speculative commentary. Fifth, longitudinal citation analysis can track how retail trading technologies have shifted scholarly attention over time. The studies under “Systematic Review / Bibliometric Methods in Finance” provide the essential methodological backbone for any serious investigation of Indian penny stocks. They show that rigorous review methods can transform a scattered and neglected topic into a structured academic field with clear theoretical pathways and future research priorities. For a domain as underexplored and misunderstood as penny stocks, such methods are not optional—they are indispensable (Donthu et al., 2021; Kraus et al., 2020; Lim et al., 2022; Paul & Criado, 2020; Rosado-Serrano et al., 2021; Snyder, 2021; Templier & Paré, 2020; Tranfield et al., 2020; Verma & Gustafsson, 2020; Zupic & Čater, 2021).

Indian Market / Emerging Market / Low-Priced Stocks

The scholarly discourse surrounding Indian penny stocks remains fragmented, despite the rapid expansion of retail participation, digital brokerage platforms, and speculative trading activity in the Indian equity market. Much of the contemporary literature does not explicitly focus on penny stocks as a standalone asset class; rather, it addresses adjacent themes such as small-cap inefficiencies, neglected stocks, thin trading, illiquidity, and behavioural distortions. These streams collectively provide the theoretical and empirical foundation for understanding the research landscape of Indian penny stocks. A synthesis of the first ten studies listed in the reference section reveals five dominant themes: market anomalies, efficiency and predictability, liquidity distortions, behavioural influences, and volatility dynamics. A central strand of literature investigates whether Indian equity markets, especially lower-priced and smaller firms, exhibit persistent return anomalies inconsistent with the Efficient Market Hypothesis. Agrawal and Tandon (2020) revisited calendar anomalies in the Indian market and documented recurring seasonal patterns in returns. Their findings suggest that even in a progressively modernized market structure, predictable temporal effects continue to survive. For penny stocks, which are typically less researched and less institutionally traded, such anomalies may be more pronounced because of lower arbitrage efficiency. This opens an underexplored domain concerning whether January effects, turn-of-the-month effects, or festival-season anomalies are stronger in penny stocks than in large-cap equities. The issue of market efficiency is further examined by Banerjee and Dutta (2021), who studied return predictability in Indian small-cap equities. They found that informational efficiency weakens as firm size declines, implying that lower-capitalization stocks are more vulnerable to delayed price adjustment. This insight is highly relevant for penny stocks, which often represent the extreme lower tail of capitalization and price segmentation. If predictability is systematically stronger in such stocks, it may imply exploitable trading opportunities or chronic informational frictions. However, the literature has yet to isolate Indian penny stocks specifically within the small-cap universe, leaving an important empirical gap.

Volatility transmission across market segments forms another important research stream. Bhowmik (2020) analysed spillovers among Indian equity categories and found interconnected volatility behaviour across segments. Although large-cap indices often dominate transmission channels, smaller and lower-priced stocks may amplify shocks through speculative contagion. Penny stocks are particularly susceptible to sentiment-driven cascades, where price surges or collapses in one cluster of firms spill into others through imitation trading. Existing literature has not sufficiently mapped such network effects among penny stocks, indicating scope for connectedness models, VAR-based spillover analysis, and nonlinear contagion testing. Liquidity remains one of the most critical characteristics of penny stocks. Chakrabarti and Sen (2022) examined liquidity and pricing anomalies in Indian equities, showing that illiquidity commands a pricing premium and contributes to cross-sectional mis-valuation. Since penny stocks frequently suffer from low turnover, wider bid-ask spreads, and episodic trading halts, liquidity constraints may be a defining determinant of returns. In practical terms, observed gains in penny stocks may not be fully realizable after transaction costs. Yet the literature lacks detailed microstructure evidence on Indian penny stocks concerning depth, resiliency, execution slippage, and intraday spread dynamics. This represents a fertile avenue for future research. Behavioural distortions have become increasingly important with the democratization of trading platforms. Das and Rout (2021) documented herding behaviour in Indian retail-dominated stocks, demonstrating that investors often mimic crowd behaviour rather than rely on fundamentals. Penny stocks, given their affordability illusion and social media visibility, are natural candidates for herd-driven episodes. The attraction of buying many shares at a low nominal price may create psychological appeal disproportionate to intrinsic value. This suggests that Indian penny stocks should be examined through the lenses of prospect theory, gambling preference, attention bias, and fear-of-missing-out dynamics. Despite this relevance, dedicated behavioural studies on Indian penny stock traders remain scarce.

The persistence of the size effect is explored by Ghosh and Mitra (2020), who found that smaller firms continue to generate differential returns in India. Traditionally, the size premium has been interpreted either as compensation for risk or evidence of market inefficiency. Penny stocks may represent an extreme manifestation of the size effect, but whether their returns are genuine compensation for distress risk or merely speculative bubbles remains unresolved. Future studies could disentangle these competing explanations using multifactor asset pricing models adjusted for liquidity and default risk. Neglected firm theory is addressed by Gupta and Sehgal (2022), who analysed mispricing in under-followed Indian stocks. Firms receiving little analyst coverage, weak media attention, and sparse institutional ownership tend to deviate more from fundamentals. Penny stocks usually fit this profile. Many remain outside mainstream research databases, which partly explains their neglect in academia. This creates a paradox: the segment where inefficiencies may be strongest is often the segment least studied. A systematic review therefore identifies dereliction itself as both a market trait and a research gap. Jain and Sharma (2021) focused on information asymmetry in low-volume Indian stocks and found that thinly traded securities suffer from delayed incorporation of firm-specific information. This is directly relevant to penny stocks, where disclosures may be limited, governance quality uneven, and investor relations weak. Information asymmetry can lead to abrupt repricing once news eventually reaches the market. Consequently, event studies on earnings announcements, corporate actions, promoter pledging, or regulatory penalties in penny stocks would substantially enrich the literature. The growing influence of retail investors is highlighted by Kumar

and Maheshwari (2023), who studied retail participation and price discovery in India. Their evidence suggests that retail flows now play a more meaningful role in market formation than in earlier decades. For penny stocks, retail investors may not merely participate—they may dominate trading. This raises important questions regarding whether price discovery in penny stocks is informationally efficient or sentiment-led. Machine learning analysis of order-flow imbalance and app-based trading data could significantly advance this frontier. Finally, Mukherjee and Roy (2020) examined thin trading and return volatility, confirming that low trading frequency distorts conventional volatility measures. This is especially important for penny stocks, where zero-return days and infrequent trades can bias standard econometric models. Future researchers should therefore employ adjusted volatility estimators, GARCH variants for illiquid assets, and nonsynchronous trading corrections when analysing penny stock behaviour.

The literature indicates that Indian penny stocks likely embody a convergence of anomalies, illiquidity, dereliction, asymmetric information, behavioural excesses, and econometric complexity. Yet they remain underrepresented as a distinct scholarly category. The most promising under-explored domains include price manipulation detection, ESG quality in penny firms, algorithmic prediction under illiquidity, retail sentiment analytics, recurrence dynamics, governance failures, and survivorship bias. Accordingly, Indian penny stocks present not merely a speculative market niche, but a valuable laboratory for advancing contemporary finance theory and empirical market research.

Penny Stocks / Microcaps / Distress Stocks

The literature on penny stocks, micro-cap equities, and distress-prone securities has gained increasing academic relevance as retail participation, speculative trading technologies, and market surveillance concerns have expanded globally. Although Indian penny stocks remain under-researched as an independent asset class, the international studies listed under “B. Penny Stocks / Microcaps / Distress Stocks” offer a strong conceptual and empirical foundation for understanding their pricing behaviour, structural vulnerabilities, and investment dynamics. These studies collectively reveal that penny stocks cannot be viewed merely as cheap shares with upside potential. Rather, they operate within a distinctive ecosystem shaped by manipulation risk, behavioural demand, weak liquidity, distress uncertainty, nominal price biases, and institutional neglect. A systematic synthesis of papers numbered 11–20 identifies five dominant themes: market manipulation and informational opacity, speculative investor demand, distress and corporate survival, liquidity frictions and trading design, and persistent mispricing due to limits to arbitrage. A central concern in penny stock literature is the heightened susceptibility of low-priced securities to market manipulation. Blau and Whitby (2020) found that low-priced stocks exhibit abnormal trading patterns often associated with coordinated price inflation, misleading promotions, or temporary volume distortions. Because penny stocks typically have thinner order books, weaker analyst coverage, and fragmented shareholder bases, they are structurally easier to influence than large-cap firms. This finding has substantial relevance for emerging markets such as India, where sudden unexplained rallies in low-priced counters are periodically observed. The study implies that penny stocks should not be assessed solely through return metrics, but also through governance quality, surveillance mechanisms, and transparency standards. From a research perspective, future Indian studies could examine circular trading, synchronized order flows, and pump-and-dump dynamics using exchange-level data (Blau & Whitby, 2020). A second dominant stream concerns speculative

investor demand. Brown and Kapadia (2020) demonstrated that penny stock valuations are often influenced by lottery-like preferences, where investors willingly accept poor expected fundamentals in exchange for a small chance of extraordinary gains. Kumar (2021) similarly showed that gambling preferences are positively associated with demand for penny stocks, suggesting that many investors treat such securities as probabilistic wagers rather than conventional long-term investments. These findings are particularly important because they shift the explanatory framework from valuation theory toward behavioural finance. In many cases, investors may be motivated less by earnings potential and more by the emotional appeal of rapid wealth creation. This behavioural tendency is highly relevant to India's growing retail investor base, where first-generation traders may be drawn toward sub-INR20 stocks because of affordability perceptions and the possibility of multi-bagger returns (Brown & Kapadia, 2020; Kumar, 2021). The role of nominal stock price as a psychological signal is further reinforced by Green and Hwang (2022), who found that speculative appeal rises when shares trade at lower nominal prices even if fundamentals remain unchanged. This phenomenon reflects money illusion: investors perceive a INR5 stock as "cheap" and a INR500 stock as "expensive," despite valuation depending on earnings, assets, and growth prospects rather than face price alone. Such nominal-price bias is highly relevant to penny stock markets because low prices themselves become a source of demand. In practical terms, this can sustain persistent overvaluation in weak firms while undervaluing fundamentally stronger higher-priced firms. For Indian markets, where nominal price often dominates retail conversations, this offers a powerful explanation for recurring enthusiasm around penny counters (Green & Hwang, 2022).

Investor behaviour within speculative micro-cap markets was examined by Bradley and Jordan (2021), who observed that trading decisions are frequently driven by momentum chasing, rumours, and promotional narratives rather than disciplined fundamental analysis. Micro-cap environments often lack robust information ecosystems, allowing stories and sentiment to substitute for financial evidence. This insight is especially timely in the digital age, where online forums, messaging groups, and influencer commentary can shape investor expectations rapidly. For Indian penny stocks, this suggests that narrative contagion may be a stronger short-term price driver than earnings announcements or balance-sheet strength. Such findings support future research using textual analytics, social media sentiment indices, and behavioural clustering of retail traders (Bradley & Jordan, 2021). Another important theme concerns financial distress and firm survivability. Campbell and Kelly (2021) found that distress risk significantly affects returns and valuation in micro-cap equities. Many penny stocks are not simply small firms at an early growth stage; rather, they may be companies experiencing leverage pressure, operational decline, weak profitability, or governance stress. Investors often fail to distinguish between genuine turnaround candidates and structurally deteriorating firms. This distinction is critical because distress can produce both speculative upside and permanent capital loss. The literature therefore suggests that penny stock investing requires rigorous balance-sheet screening rather than price-based attraction alone (Campbell & Kelly, 2021). Closely related to distress is the question of post-restructuring survival. Gao and Ritter (2021) examined reverse stock splits and showed that such actions are frequently undertaken by penny stocks seeking to preserve listing status or improve market image. However, cosmetic restructuring alone does not ensure long-term performance. Unless accompanied by real operational recovery, post-split outcomes often remain weak. This finding has direct implications for emerging markets where firms may undertake name changes, capital reorganizations, or nominal restructuring to attract

investor attention. For Indian penny stocks, the lesson is clear: structural repair matters more than symbolic financial engineering (Gao & Ritter, 2021).

Liquidity constraints form another major pillar of the literature. Chordia and Subrahmanyam (2022) documented illiquidity premia among low-priced stocks, indicating that investors may demand higher expected returns as compensation for trading difficulty. Penny stocks often feature wide bid-ask spreads, shallow depth, and intermittent volume. Consequently, reported gains may not be fully realizable once transaction costs and slippage are considered. This has important implications for both researchers and practitioners: return analysis must be adjusted for execution frictions rather than relying solely on closing prices (Chordia & Subrahmanyam, 2022). Market design also materially influences penny stock behaviour. Fong and Holden (2020) showed that tick size effects are particularly meaningful in penny-priced equities because a minimal price increment can represent a large percentage move. This may widen spreads, distort price discovery, and increase short-term volatility. In low-priced Indian stocks trading within narrow price bands, such design issues may significantly shape trader outcomes and volatility patterns (Fong & Holden, 2020). Finally, Hou and Loh (2020) explained why mispricing in neglected stocks can persist through limits to arbitrage. Even when professional investors identify overvaluation or undervaluation, they may avoid penny stocks because of liquidity risk, short-selling constraints, governance uncertainty, and reputational costs. As a result, anomalies survive longer than in large-cap markets. This helps explain why penny stocks may remain disconnected from fundamentals for extended periods (Hou & Loh, 2020).

The reviewed studies establish that penny stocks represent a complex market segment where speculative demand, distress fundamentals, illiquidity, institutional avoidance, and behavioural misperceptions interact simultaneously. They are neither merely cheap opportunities nor uniformly poor investments. Instead, they form a high-friction asset class requiring specialized analytical treatment. For Indian scholarship, major gaps remain in manipulation detection, survival modelling, liquidity-adjusted returns, governance screening, and retail sentiment transmission. Accordingly, penny stocks deserve far more rigorous academic attention as an important laboratory for testing contemporary theories of market efficiency, behavioural finance, and asset pricing.

Behavioural Finance / Retail Trading

Behavioural finance has become one of the most influential frameworks for understanding price formation in modern equity markets, particularly in segments dominated by retail investors and speculative activity. This relevance is especially pronounced in the context of penny stocks, where low nominal prices, rapid information diffusion, and sentiment-led trading often overshadow conventional valuation metrics. In India, the dramatic growth of mobile brokerage platforms, social media investing communities, and first-generation market participants has made behavioural explanations increasingly necessary. While direct scholarly work on Indian penny stocks remains limited, the studies grouped under “Behavioural Finance / Retail Trading” provide a robust conceptual base for interpreting how investor psychology may shape this neglected segment. Collectively, these papers indicate that retail sentiment, attention shocks, herd behaviour, overreaction, lottery preferences, and speculative enthusiasm are central to understanding low-priced stock dynamics. A foundational theme in this literature is the role of investor attention in driving speculative demand. Barber et al. (2021) showed that investors disproportionately trade stocks that attract sudden attention, often independent of underlying fundamentals. In markets saturated with

digital information, attention can be triggered by headlines, viral posts, sudden price jumps, or unusual trading volume. Penny stocks are especially vulnerable to this mechanism because their low prices and potential for dramatic percentage moves make them naturally attention-grabbing. For Indian markets, where retail participation has surged, this suggests that visibility rather than intrinsic value may frequently determine short-term demand for penny stocks. Related to attention-driven behaviour is the growing role of sentiment. Bouri and Gupta (2020) found that retail sentiment significantly affects stock volatility, implying that mood shifts among individual investors can intensify price fluctuations. Sentiment becomes especially relevant in penny stocks because these securities often lack strong institutional anchors. Without consistent analyst guidance or large informed investors, prices may respond sharply to optimism or fear circulating among retail traders. In the Indian context, where market enthusiasm often spreads rapidly through informal digital networks, sentiment-led volatility may be a defining characteristic of penny stock trading.

The attraction of lottery-like payoffs is another recurring explanation. Chiah and Zhong (2021) argued that many investors display a preference for stocks offering small probabilities of outsized gains, even when expected returns are weak. This logic closely aligns with penny stock demand. A low-priced stock capable of doubling quickly may appeal more strongly than a stable large-cap stock offering moderate returns. Such preferences are not necessarily irrational in psychological terms; they reflect aspiration, hope, and the emotional appeal of transformative gains. For Indian penny stocks, lottery preference may explain why financially weak companies continue to attract persistent trading interest despite fragile fundamentals. Noise trading also occupies a central place in the literature. Dash and Mahakud (2022) found evidence that non-fundamental trading activity influences Indian equities, suggesting that market prices are not always guided by information efficiency. Noise traders may react to rumours, technical patterns, peer behaviour, or momentum without reference to intrinsic value. Penny stocks are particularly susceptible because limited disclosures and thin information environments make it easier for narratives to dominate fundamentals. This finding is highly relevant to India, where many low-priced counters experience abrupt price movements unsupported by earnings or operational developments. Han and Kumar (2020) further reinforced the speculative nature of low-priced equities by showing that retail speculation is strongly associated with penny stock demand. Their work suggests that many investors approach such stocks not as long-term ownership claims but as short-term opportunities for rapid gains. In practical terms, this creates high turnover, exaggerated momentum, and unstable holding patterns. For Indian penny stocks, where many participants are first-time traders, speculative participation may be intensified by the perceived affordability of buying thousands of shares at a low price. The digital era has introduced a new behavioural channel through social media influence. Hasso and Müller (2021) found that online sentiment and social interaction significantly shape trading behaviour in speculative stocks. This insight is particularly timely for India, where financial content creators, discussion groups, messaging apps, and influencer commentary now play a visible role in retail decision-making. Penny stocks, because they often receive little traditional coverage, may rely disproportionately on informal digital narratives. As a result, social media sentiment could become a stronger predictor of short-term price movements than traditional accounting indicators.

Another recurring behavioural pattern is investor overreaction. Lee and Piqueira (2022) documented that penny equities often experience exaggerated responses to news and price signals, followed by reversals. Such overreaction may arise because investors interpret limited information too strongly or

extrapolate recent trends into the future. In India, similar behaviour may explain why certain low-priced stocks surge rapidly after minor announcements and then retreat once enthusiasm fades. This opens an important research avenue involving post-event drift and reversal behaviour among Indian penny stocks. Sentiment effects in broader Indian stock returns were also studied by Sehgal and Tripathi (2021), who found that investor mood and confidence can materially influence market outcomes. Their findings imply that behavioural variables are not confined to fringe securities; they matter across the market. However, the effect may be stronger in penny stocks because valuation anchors are weaker and investor composition is more retail-centric. This suggests that Indian penny stocks could serve as a concentrated laboratory for examining sentiment transmission. Episodes of intense retail enthusiasm were analysed by Zhang and Zheng (2023), who studied trading frenzies in small-cap stocks. They found that surges in retail participation can create temporary mispricing, excessive turnover, and unstable momentum. Such frenzies are highly relevant to Indian penny stocks, where sudden crowd participation often drives dramatic rallies. These episodes may be amplified by mobile trading apps that reduce transaction friction and gamify investing. For scholars, this raises questions about whether democratized access improves efficiency or magnifies speculative excess.

Finally, Zhao and Wang (2020) linked investor attention to speculative bubbles, demonstrating how concentrated enthusiasm can detach prices from fundamentals. Penny stocks are natural candidates for bubble-like behaviour because they combine low entry barriers, high narrative appeal, and thin informational discipline. In India, this may be particularly relevant during bull phases when retail confidence expands rapidly. Bubble dynamics in penny stocks remain insufficiently studied despite their practical significance for regulators and investors. Taken together, the literature strongly suggests that behavioural forces are not peripheral influences but core determinants of price dynamics in low-priced and retail-driven stocks. Attention shocks, optimism cycles, herd responses, overreaction, and lottery-seeking behaviour appear especially potent where fundamentals are opaque and institutional participation is limited. This makes the penny stock segment particularly important for behavioural finance scholarship. For the Indian research landscape, several under-explored domains emerge. First, sentiment indices tailored to penny stocks could be developed using social media, search trends, and retail discussion forums. Second, event studies may test whether attention spikes predict abnormal returns or reversals. Third, machine learning tools can classify speculative bubbles in sub-INR20 stocks. Fourth, behavioural segmentation could distinguish novice traders from experienced retail participants. Fifth, psychological framing effects associated with nominal price should be examined directly.

The behavioural finance literature provides one of the strongest theoretical foundations for studying Indian penny stocks. These securities are shaped not merely by earnings, assets, or cash flows, but by hope, excitement, imitation, fear, and narrative contagion. As retail participation continues to reshape Indian markets, penny stocks deserve far more serious scholarly attention as a setting where human behaviour and market pricing interact in especially visible ways (Barber et al., 2021; Bouri & Gupta, 2020; Chiah & Zhong, 2021; Dash & Mahakud, 2022; Han & Kumar, 2020; Hasso & Müller, 2021; Lee & Piqueira, 2022; Sehgal & Tripathi, 2021; Zhang & Zheng, 2023; Zhao & Wang, 2020).

Volatility / Time Series / Risk Models

The literature on volatility modelling, nonlinear dynamics, and risk estimation has become increasingly significant in understanding speculative and thinly traded equity segments such as penny stocks. While mainstream financial research often focuses on large-cap securities with deep liquidity and stable price discovery, the behaviour of low-priced equities requires more specialized analytical tools because of episodic trading, abrupt jumps, clustering of volatility, and sensitivity to speculative sentiment. In the context of the uploaded study on Indian penny stocks, the works listed under “D. Volatility / Time Series / Risk Models” provide a critical methodological foundation for examining how risk evolves in under-researched securities. Collectively, papers numbered 31–40 suggest that conventional variance-based models are often insufficient for penny stock analysis. Instead, a richer framework involving GARCH processes, multifractality, jump diffusion, tail dependence, long memory, and recurrence-based methods is required. Five major themes emerge from this literature: volatility persistence, nonlinear complexity, extreme-risk behaviour, illiquidity-adjusted modelling, and advanced forecasting frameworks. A foundational stream of research concerns the use of GARCH-family models for volatility forecasting. Alberg and Shalit (2020) demonstrated that GARCH approaches remain effective in modelling small-stock volatility, particularly where return variance changes over time rather than remaining constant. Their findings are highly relevant to penny stocks because such securities often experience quiet periods interrupted by sudden speculative bursts. Traditional static risk measures fail to capture these transitions, whereas conditional heteroskedasticity models adapt to evolving market uncertainty. For Indian penny stocks, this implies that time-varying volatility estimation should be preferred over simple standard deviation metrics when evaluating risk or constructing portfolios (Alberg & Shalit, 2020). Supporting this perspective, Mishra and Rout (2022) used EGARCH techniques for Indian small-cap indices and found asymmetric responses to positive and negative shocks. This is particularly important because bad news may trigger sharper volatility spikes than favourable news of similar magnitude. In penny stocks, where confidence can collapse quickly due to weak fundamentals or governance concerns, negative asymmetry may be even stronger. Their work suggests that Indian penny stock researchers should explicitly test leverage effects and sentiment asymmetry rather than assuming symmetric market reactions (Mishra & Rout, 2022).

Another major theme is volatility clustering in illiquid markets. Chkili and Nguyen (2020) found that thinly traded markets exhibit pronounced clustering, where turbulent periods are followed by further turbulence and calm periods tend to persist. This phenomenon is central to penny stocks, where low liquidity amplifies reactions to relatively small order flows. A modest burst of buying interest may create extended volatility, while inactivity may generate prolonged flat trading ranges. For Indian penny stocks, this means that risk often arrives in waves rather than randomly, making dynamic monitoring essential for traders, regulators, and researchers alike (Chkili & Nguyen, 2020). Long-memory behaviour adds another layer of complexity. Karmakar (2021) documented persistent dependence in Indian equity volatility, indicating that shocks can influence market behaviour for longer horizons than standard short-memory models assume. In penny stocks, this may be magnified because reputational events, speculative rallies, or governance controversies can shape investor perceptions long after the original trigger has faded. Long-memory models therefore offer a more realistic basis for forecasting sustained uncertainty in low-priced stocks. Rather than treating volatility as quickly mean-reverting, researchers should consider that penny stock turbulence may

decay slowly over time (Karmakar, 2021). A second broad stream focuses on nonlinear complexity and multifractal behaviour. Bentes (2021) showed that emerging equity markets often exhibit multifractality, meaning price movements operate across multiple time scales with varying degrees of persistence and irregularity. This insight is highly applicable to penny stocks, where intraday speculation, weekly momentum, and longer-term distress cycles may coexist simultaneously. Standard linear models frequently overlook such layered dynamics. For Indian penny stocks, multifractal methods could help distinguish short-lived speculative noise from deeper structural trends (Bentes, 2021).

Lahmiri and Bekiros (2023) extended this nonlinear perspective by analysing distressed equities and identifying complex dynamics inconsistent with purely random-walk assumptions. Their findings suggest that distressed securities may follow unstable, regime-dependent trajectories shaped by uncertainty, sentiment, and survival expectations. Many penny stocks share these characteristics, especially those linked to weak balance sheets or turnaround narratives. This implies that modelling Indian penny stocks through purely linear regressions may underestimate the real behavioural and structural complexity embedded in their prices (Lahmiri & Bekiros, 2023). A third major theme concerns extreme returns and tail risk. Gkillas and Katsiampa (2022) found that speculative equities exhibit a heightened probability of extreme positive and negative returns relative to conventional stocks. This is immediately relevant to penny stocks, where daily double-digit price moves are not unusual. Such behaviour undermines normal-distribution assumptions commonly used in finance. For Indian penny stock portfolios, downside risk may be materially larger than suggested by variance alone, while upside jumps may coexist with severe crash potential (Gkillas & Katsiampa, 2022). Wang and Chen (2021) further examined tail dependence in speculative stocks, showing that securities may become more correlated during extreme market conditions than during normal times. This has major portfolio implications. Investors often assume diversification across multiple penny stocks reduces risk, yet if these securities collapse together during stress episodes, diversification benefits may disappear precisely when needed most. For Indian retail investors concentrated in clusters of low-priced stocks, this represents a significant but often overlooked vulnerability (Wang & Chen, 2021). Jump risk forms a related component of extreme-value analysis. Tseng (2020) studied jump diffusion processes in micro-cap stocks and found that abrupt discontinuous price changes are common. Unlike gradual volatility, jumps reflect sudden information shocks, manipulative episodes, or thin-order-book dislocations. Penny stocks frequently experience such discontinuities because limited liquidity allows relatively small trades or announcements to move prices sharply. For Indian researchers, jump models may therefore be superior to smooth continuous-time models when examining intraday or daily penny stock returns (Tseng, 2020).

A final and highly innovative stream involves recurrence-based analysis. Yıldırım (2022) applied recurrence quantification methods to stock dynamics, demonstrating that financial systems often revisit prior states in identifiable nonlinear patterns. This framework is especially promising for penny stocks, where repetitive cycles of accumulation, breakout, euphoria, correction, and stagnation are frequently observed. Conventional econometric models may miss such recurring structures, whereas recurrence analysis can detect regime shifts, persistence, and pattern instability. For a systematic review of Indian penny stocks, this methodology offers a frontier avenue capable of integrating complexity science with finance (Yıldırım, 2022).

Taken together, the reviewed literature strongly indicates that penny stock risk cannot be adequately captured through simplistic measures such as average returns or static volatility. These securities exhibit clustered uncertainty, asymmetric reactions, long memory, nonlinear structure, jump behaviour, and fat-tailed losses. Accordingly, they demand advanced econometric treatment. For Indian markets, where penny stocks are often retail-dominated and thinly traded, the need for such sophistication is even greater. Several future research directions emerge. First, hybrid GARCH-jump models could be developed specifically for Indian penny stocks. Second, multifractal analysis may identify whether speculative rallies differ statistically from distress collapses. Third, recurrence quantification can be used to detect bubble formation cycles in sub-INR20 stocks. Fourth, copula-based tail dependence models may assess contagion among penny stock clusters. Fifth, machine learning volatility forecasting could combine price, volume, and sentiment variables to improve predictive accuracy. The studies under “Volatility / Time Series / Risk Models” provide a powerful methodological scaffold for advancing penny stock scholarship. They show that low-priced equities are not merely riskier versions of ordinary stocks; they possess qualitatively different statistical behaviour requiring dedicated modelling approaches. For Indian penny stock research, these methods open a rich pathway toward more rigorous, realistic, and policy-relevant understanding of volatility, speculation, and market fragility (Alberg & Shalit, 2020; Bentes, 2021; Chkili & Nguyen, 2020; Gkillas & Katsiampa, 2022; Karmakar, 2021; Lahmiri & Bekiros, 2023; Mishra & Rout, 2022; Tseng, 2020; Wang & Chen, 2021; Yıldırım, 2022).

MAJOR THEORETICAL INSIGHTS EMERGING FROM THE LITERATURE

The literature mapped under Mapping the Indian Penny Stock Research Landscape reveals that Indian penny stocks should no longer be viewed as a fringe or purely speculative corner of the equity market. Instead, they emerge as a meaningful laboratory for testing several major theories in finance, behavioural economics, market microstructure, and risk modelling. When the available studies are examined together, five broad theoretical insights become visible.

The first major insight concerns the limits of the Efficient Market Hypothesis (EMH). Classical finance assumes that stock prices rapidly incorporate all available information. However, the reviewed literature suggests that this assumption weakens substantially in low-priced and thinly traded stocks. Small-cap and neglected firms often experience delayed price adjustment, return predictability, calendar anomalies, and persistent mispricing. These features indicate that information does not move uniformly across all market segments. In penny stocks, weak analyst coverage, sparse disclosures, and low institutional participation create frictions that slow down informational efficiency. As a result, Indian penny stocks appear to support the view that markets are only partially efficient, especially where informational infrastructure is weak.

The second important insight arises from behavioural finance theory. Penny stocks are strongly influenced by investor psychology rather than fundamentals alone. Studies on attention-induced trading, herd behaviour, overreaction, lottery preferences, and speculative sentiment indicate that investors often treat penny stocks as aspirational bets rather than ownership claims in businesses. The nominally low price of these shares creates an illusion of affordability, encouraging first-time or inexperienced investors to buy large quantities of shares despite poor fundamentals. This reflects prospect theory, money illusion, fear of missing out, and gambling preference. In the Indian context, where retail participation has expanded sharply through app-based trading platforms, behavioural

forces may be especially powerful. Thus, penny stocks reinforce the argument that markets are shaped not only by rational valuation but also by hope, excitement, imitation, and crowd psychology.

A third theoretical insight concerns market microstructure and liquidity theory. Penny stocks are typically characterized by thin order books, wider bid-ask spreads, low turnover, and sporadic trading. The literature shows that such illiquidity can materially affect both prices and measured returns. Apparent gains may be difficult to realize once transaction costs and slippage are considered. Moreover, low liquidity can magnify price reactions to even modest buy or sell orders. This supports the broader theoretical proposition that markets are not frictionless arenas; trading design, tick size, execution depth, and participation structure matter greatly. In Indian penny stocks, where many counters trade infrequently, liquidity itself may be one of the strongest determinants of valuation and volatility.

The fourth insight relates to risk-return theory and distress pricing. Traditional finance often assumes that higher returns compensate investors for higher risk. Yet the penny stock literature suggests that not all high returns in such stocks are true risk premia. Some may arise from temporary speculative bubbles, information asymmetry, or survival uncertainty. Many penny stocks are financially distressed firms facing leverage pressure, weak profitability, or governance concerns. This means investors may be exposed not only to volatility risk but also to permanent capital loss, delisting risk, or dilution. Therefore, penny stocks refine the standard risk-return framework by showing that risk is multidimensional. It includes liquidity risk, governance risk, fraud risk, and business survival risk—not merely price volatility.

A fifth major insight emerges from complexity and nonlinear market dynamics. The reviewed studies on GARCH models, long memory, jump diffusion, multifractality, tail dependence, and recurrence analysis indicate that penny stock prices often behave differently from conventional large-cap stocks. Volatility tends to cluster, shocks can persist for long periods, and abrupt jumps are common. Price movements may not follow smooth random walks; instead, they may pass through repeating cycles of accumulation, breakout, euphoria, collapse, and stagnation. This supports the growing theoretical view that financial markets are complex adaptive systems rather than perfectly linear mechanisms. For Indian penny stocks, advanced modelling tools may be more suitable than simple variance or beta-based approaches.

Another significant insight concerns institutional neglect and limits to arbitrage. In theory, mispriced securities should attract professional investors who restore fair value. Yet penny stocks often remain mispriced for long periods because institutions avoid them due to reputational risk, low liquidity, governance uncertainty, and operational constraints. This suggests that arbitrage is not costless or universal. Where the costs of correcting mispricing are too high, anomalies may survive. Indian penny stocks therefore illustrate why markets can remain inefficient even when sophisticated investors exist.

Finally, the literature suggests that penny stocks hold value as a policy and regulatory research domain. Because these stocks combine retail dominance, information opacity, and manipulation risk, they provide an important testing ground for investor protection frameworks. Questions of surveillance, disclosure quality, and market education become especially relevant here.

The literature shows that Indian penny stocks are not merely cheap speculative counters. They illuminate core debates in finance: whether markets are efficient, how psychology shapes prices, how liquidity influences valuation, how risk should be defined, and how complex systems evolve. Far from being academically trivial, penny stocks represent a concentrated setting where many modern financial theories become highly visible and empirically testable.

UNDER-EXPLORED DOMAINS IN RESEARCH ON INDIAN PENNY STOCKS

Despite rising retail participation and periodic investor fascination with low-priced shares, research on Indian penny stocks remains surprisingly limited. Most studies examine adjacent themes such as small-cap inefficiencies, retail sentiment, or volatility, but very few focus on penny stocks as a distinct asset class. This creates several under-explored domains with strong academic and policy relevance.

One of the most neglected areas is market manipulation and abnormal trading behaviour. Penny stocks are often suspected of pump-and-dump schemes, circular trading, synchronized orders, and misleading promotional campaigns. Yet systematic empirical evidence for India remains scarce. Future research could use exchange-level transaction data, surveillance flags, and network analysis to identify unusual trading clusters. Such work would be valuable not only for scholarship but also for regulators seeking to strengthen market integrity.

A second under-researched domain is retail investor psychology in penny stock trading. While behavioural finance studies exist for equities in general, little is known specifically about why Indian investors buy penny stocks. Do they seek lottery-like gains? Are they influenced by social media narratives, peer recommendations, or affordability illusions? Do novice traders behave differently from experienced participants? Survey-based and behavioural experimental studies could answer these questions. Given the rapid growth of digital brokerage platforms in India, this area deserves urgent attention.

Third, there is substantial scope in social media and sentiment analytics. Many penny stocks receive limited institutional research coverage, which means informal channels may play an outsized role in shaping perceptions. Telegram groups, YouTube channels, online forums, and messaging platforms may influence short-term price movements. Yet there is almost no rigorous Indian evidence linking digital sentiment with penny stock returns or volatility. Machine learning tools could be used to build sentiment indices and test whether online enthusiasm predicts rallies or reversals.

A fourth neglected domain concerns corporate governance and disclosure quality. Penny stock firms often receive little scrutiny despite potentially weak board structures, promoter concentration, delayed filings, or limited transparency. Research could investigate whether governance indicators explain long-term survival, volatility, or abnormal returns in Indian penny stocks. Such studies would help distinguish genuine turnaround firms from structurally weak entities.

Fifth, survival analysis and business lifecycle studies remain sparse. Many penny stocks disappear through delisting, mergers, bankruptcy, restructuring, or prolonged stagnation. Yet most market discussions focus only on temporary winners. This creates survivorship bias. Future studies should examine how many penny stocks actually recover into successful mid-cap firms, how many remain dormant, and how many fail entirely. Hazard models and panel data techniques would be useful here.

Another major gap lies in liquidity-adjusted return measurement. Investors often cite extraordinary gains in penny stocks based on headline price changes. However, these returns may be misleading when spreads, slippage, price bands, or inability to exit positions are considered. Research should estimate realistic execution-adjusted returns rather than relying on closing prices alone. This would provide a more accurate picture of inevitability.

The field also lacks sufficient work on advanced volatility and recurrence dynamics. Penny stocks frequently move through repeating cycles of dormancy, breakout, frenzy, collapse, and inactivity. Standard return models may fail to capture these patterns. Techniques such as GARCH, jump models, multifractal analysis, and recurrence quantification could reveal hidden structures in Indian penny stock behaviour. This is a promising frontier for quantitative finance researchers.

Another under-explored area is ESG and sustainability in micro-cap firms. As ESG investing gains importance globally, almost no work examines environmental, social, or governance practices among Indian penny stock companies. Do firms with stronger governance or better sustainability practices outperform peers over time? Do ESG signals reduce distress risk? These are highly relevant but largely unanswered questions.

There is also limited scholarship on sectoral clustering and regional concentration. Indian penny stocks may be concentrated in certain sectors such as textiles, infrastructure, finance, or small manufacturing. Some may also cluster geographically. Understanding whether sector-specific shocks disproportionately affect penny stocks would enrich industrial finance research.

Finally, policy effectiveness and investor education outcomes remain largely untested. India has strengthened disclosure rules, surveillance systems, and investor awareness efforts, yet little is known about whether these measures reduce speculative excess in penny stocks. This offers fertile ground for event studies around regulatory interventions.

Research on Indian penny stocks remains at an early stage. The most promising under-explored domains include manipulation detection, behavioural motives, digital sentiment, governance quality, survival dynamics, liquidity-adjusted returns, advanced risk modelling, ESG standards, sectoral patterns, and regulatory impact. Because penny stocks sit at the intersection of finance, psychology, technology, and public policy, they offer far richer research possibilities than commonly assumed.

WAY FORWARD FOR FUTURE RESEARCH

The existing body of literature makes it clear that Indian penny stocks represent far more than a marginal or speculative corner of the securities market. They reflect a unique intersection of retail behaviour, market frictions, information asymmetry, liquidity constraints, and evolving digital participation. Yet, despite their visibility in practice, scholarly attention remains limited and fragmented. The way forward for future research therefore lies in moving from descriptive observations toward rigorous, theory-driven, data-intensive, and policy-relevant inquiry.

Priority should be accorded to the development of a clear and standardized academic definition of Indian penny stocks. At present, the term is often used loosely in media discussions and investor circles. Future studies should establish measurable criteria based on share price, market capitalization, trading volume, liquidity, or governance quality. A consistent classification framework

would improve comparability across studies and help build a coherent research tradition. Without definitional clarity, findings remain scattered and difficult to generalize.

Second, future scholarship should focus on building comprehensive datasets dedicated to penny stocks. Much of the current challenge arises from poor data visibility, survivorship bias, and limited historical coverage. Researchers should construct longitudinal databases covering price behaviour, turnover, promoter holdings, corporate actions, delistings, disclosures, and financial distress indicators. Such databases would allow robust panel studies rather than isolated case-based analysis. Once reliable data infrastructure is created, Indian penny stock research can progress significantly.

Third, there is a pressing need for stronger behavioural finance research. Penny stocks are often shaped by attention shocks, herd behaviour, fear of missing out, overconfidence, and lottery-style preferences. Future studies should use surveys, experiments, brokerage-level anonymized data, and digital behaviour metrics to understand why investors enter this segment and how decisions are formed. Comparative work between novice retail investors, experienced traders, and institutional participants would be especially useful. Such research would deepen understanding of how psychology influences market pricing in India.

Fourth, the rise of technology opens a major frontier in social media analytics and machine learning. Many penny stock rallies are driven by narratives spreading through messaging groups, online forums, video platforms, and influencer networks. Future studies should examine whether digital sentiment predicts abnormal returns, excess volatility, or subsequent reversals. Natural language processing, sentiment scoring, and anomaly detection models can help explain how informal information ecosystems affect price discovery. This is particularly relevant in India's rapidly digitizing investment environment.

Fifth, future work should address market integrity and manipulation detection. Penny stocks are frequently associated with suspicious trading patterns, circular transactions, operator-driven movements, and pump-and-dump episodes. Academic research can contribute meaningfully by applying network models, transaction sequencing, and forensic analytics to identify unusual patterns. Evidence-based findings in this area would benefit regulators, exchanges, and investor education efforts.

Another key direction involves corporate governance and firm quality analysis. Not all penny stocks are distressed or poor-quality firms. Some may be neglected businesses with genuine turnaround potential. Future research should therefore distinguish between speculative shells, weak firms, and fundamentally improving companies. Variables such as board independence, disclosure discipline, promoter pledging, leverage quality, and earnings persistence should be examined. This would move the literature beyond simplistic assumptions that all penny stocks are identical.

Future studies should also expand into advanced risk modelling and nonlinear finance. Penny stocks often exhibit volatility clustering, sudden jumps, long memory, and extreme tail risk. Traditional beta or variance measures may underestimate true exposure. Researchers should employ GARCH-family models, jump diffusion techniques, copula dependence structures, recurrence analysis, and machine learning forecasting systems. Such methods would offer more realistic estimates of risk in thinly traded Indian securities.

A further promising area is ESG and sustainability in micro-cap firms. As sustainable finance grows globally, almost no structured evidence exists on environmental, social, or governance practices among Indian penny stock companies. Future research may explore whether stronger governance or responsible business conduct improves survival prospects, valuation credibility, or long-term returns. This can connect penny stock scholarship with mainstream finance debates.

Finally, future research must remain policy-oriented and interdisciplinary. Penny stocks are not only a finance topic; they also involve law, technology, psychology, consumer behaviour, and regulation. Studies examining the effectiveness of disclosure reforms, surveillance mechanisms, investor awareness campaigns, and platform-based risk warnings would be especially valuable.

The future research agenda on Indian penny stocks should be broader, deeper, and methodologically stronger than the past. With better definitions, richer datasets, behavioural insights, technological tools, governance screening, and advanced econometrics, this neglected segment can become an important field of modern finance research. Rather than treating penny stocks as market curiosities, future scholarship should recognize them as a revealing window into how emerging capital markets function under conditions of uncertainty, speculation, and rapid retail participation.

CONCLUSION

This study set out to map the emerging research landscape of Indian penny stocks and, in doing so, highlights a market segment that has long attracted investor attention but received relatively limited academic scrutiny. The review demonstrates that penny stocks should not be dismissed merely as speculative low-priced shares. Rather, they represent a complex and revealing space where issues of market efficiency, behavioural finance, liquidity constraints, governance quality, and risk dynamics converge in highly visible form. As such, Indian penny stocks deserve recognition as a legitimate and important subject of financial research.

The literature examined in this paper suggests that Indian penny stocks often reflect conditions under which conventional assumptions of finance become less stable. Information may travel slowly, mispricing may persist, retail sentiment may dominate fundamentals, and liquidity shortages may distort observed returns. These characteristics make penny stocks particularly useful for testing the practical limits of classical theories such as the Efficient Market Hypothesis and simplified risk-return models. At the same time, they strengthen the relevance of behavioural explanations involving herd behaviour, overconfidence, attention bias, and lottery-style preferences.

A second major conclusion of this review is that the current research base remains fragmented. Existing studies are often spread across adjacent themes such as small-cap inefficiencies, retail participation, volatility modelling, and neglected firms, without consistently treating penny stocks as a distinct category. This fragmentation creates substantial scope for future scholarship. Areas such as manipulation detection, governance screening, survival analysis, ESG practices, social media influence, liquidity-adjusted returns, and nonlinear price behaviour remain significantly under-explored in the Indian context.

The study also emphasizes that future progress depends on stronger methodology. Standardized definitions, cleaner datasets, longitudinal evidence, and advanced econometric tools are necessary for building a mature body of knowledge. Equally important is the need for interdisciplinary research

that combines finance with psychology, technology, data science, and regulation. Penny stocks are influenced not only by balance sheets and earnings, but also by narratives, digital communities, trading platforms, and surveillance systems. Understanding them therefore requires broader analytical lenses.

From a practical perspective, this field has direct implications for investors, regulators, educators, and market institutions. Better evidence can improve investor awareness, support fraud prevention, refine surveillance mechanisms, and encourage more informed participation in the market. For policymakers, penny stocks provide an important window into how retail-driven segments behave in an emerging economy undergoing rapid financialization.

In final reflection, Indian penny stocks should be seen neither as automatic wealth creators nor as assets to be ignored. They are a high-friction, high-information-value segment of the market that reveals how real-world finance operates when uncertainty, speculation, and limited transparency interact. If studied rigorously, they can contribute meaningfully to contemporary debates in finance theory and market practice. The future of this research domain is therefore not peripheral—it is promising, timely, and increasingly necessary.

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