



## Financial derivatives: Awareness and participation of retail investors in Bihar

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### Abstract

The Indian capital market has witnessed a paradigm shift with the rapid expansion of the derivatives segment. While institutional participation has historically dominated this space, recent years have seen a surge in retail engagement, driven by digitalization and low brokerage barriers. However, this growth is geographically uneven. This study investigates the level of awareness, perception, and trading behaviour of retail investors in Bihar, a region characterized by a transitioning economy and traditionally conservative investment habits. Utilizing primary data from 150 investor across urban and semi-urban clusters in Bihar, the research identifies a significant “knowledge-participation gap”. The findings reveal that while awareness of futures and options (F&O) is rising, technical understanding remains low, leading to high loss ratios. The study recommends targeted vernacular financial education to bridge this gap and ensure sustainable capital market growth in Eastern India.

**Keywords:** Bihar, financial derivatives, financial literacy, futures and options (f&o), retail investors, risk perception

### Introduction

Financial derivatives have emerged as the most significant innovation in global finance, serving dual purpose of risk management (hedging) and profit maximisation (speculation). In the India context, the National Stock Exchange (NSE) has consistently ranked as the world’s largest derivatives exchange by volume.

The state of Bihar, often perceived as an agrarian economy, is undergoing a digital transformation. With the proliferation of smartphone-based trading apps like zerodha, grow and Angel one, the “retail rush” in the Equity Derivatives Segment (EDS) has reached Tier-2 and Tier-3 cities. Despite this, the participation of retail investors in Bihar remains an under-researched area. Unlike the metropolitan hubs of Mumbai or Bengaluru, Bihar’s investment culture has been historically rooted in physical assets like gold and real estate. This article explore how retail investors in this region are navigating the complex, high leverage world of derivatives.

In Bihar, the narrative of “poverty to prosperity” is being rewritten through digital inclusion. With the rise of discount brokerage and mobile trading apps, the barriers to entry for the Bihar-based investor from Patna to Muzaffarpur have vanished. However, this ease of access has not been matched by a proportional increase in financial literacy, leading to significant wealth erosion among the state’s growing investor.

### Literature Review

#### 1. Regional, Dynamics and Awareness

Recent studies (Mishra, 2025) [4] highlight that while financial literacy is improving in districts like Sahars and Muzaffarpur, it is primarily concentrated on basic banking and insurance products. Bansal & Kumar (2021) [1, 3] noted that retail participation in derivatives is strongly correlated with the proximity to commercial hubs, which explains the higher activity in Patna and Muzaffarpur compared to rural Bihar.

#### 2. The Risk-loss Paradox

A landmark report by SEBI (2023, updated 2025) revealed a startling reality: 90% of retail traders in the F & O segment incurred significant losses, with average loss amounting to Rs. 1.1 lakh per individual. Kumar *et al* (2021) [3] argued that most Indian retail investor are driven by “herd behaviour” and “lottery-ticket bias”, viewing options as a path to quick wealth rather than a tool for hedging.

#### 3. Psychological and Cultural Factors

Suresh and Iyer (2022) [6] identified “Overconfidence” and “Mental Accounting” as primary drivers for retail participation: In regions like Bihar, IJFMR (2025) [2] reports that “Cultural Risk Aversion” acts as a double-edged sword, while it prevents some from entering the market, those who do enter often lack the technical training to manage the high volatility, leading to catastrophic financial outcomes.

4. **Bhanmik (1998):** credit risk is often negligible in exchange traded contracts since traders are settled via a clearing house. For OTC derivatives trading, banks and other dealers usually only cater to highly rated clients.

5. **Hentshel and Smith (1995),** in derivative contracts either party may default during the life of the contract. For example, either counter-party may default on any of the settlement dates during the life of a swap agreement default risk has two components: first, the expected exposure and second the probability that default will occur.

6. **Dr. K. Santi Swarup** conducted a survey in December, 2003 and published a paper on measures for improving common investors confidence in Indian Primary Market.

### Objective of the Study

1. To evaluate the level of awareness regarding financial derivatives among retail investors in Bihar.

2. To identify the primary motivators and barriers for retail participation in the F & O segment.
3. To analyze the relationship between financial literacy and trading success in the region.

### Research Methodology

This study adopts a descriptive-cum-exploratory research design.

- **Sampling:** A structured questionnaire was administered to 150 retail investors across Patna, Muzaffarpur, and Gaya.
- **Data Collection:** Primary data was collected via online surveys and face-to-face interviews at local brokerage houses. Secondary data was sourced from SEBI bulletins, NSE reports, and academic journals.
- **Tools:** Descriptive statistics and correlation analysis were used to interpret the findings.

### Findings and Discussion

To understand Bihar, we must first look at the national context. As of 2025, India's derivative market is one of the world's most active.

- Growth in FY 25, the average daily traded value in the Equity Index derivatives segment reached Rs. 2.63 lakh crore.
- Index option (Premium terms) grew at a 5-year CAGR of 72%, notional turnover was up 101%.
- Unique retail traders in the Equity Index derivatives segment (EDS) dropped 20% YOY in the December 2024-May 2025 period.
- Majority of the retail losses were concentrated in weekly index options contracts (Example-Nifty 50, Sensex, Bank Nifty and Banker).
- The number of contracts in these instruments saw exponential volume growth but were largely used speculatively not for hedging.
- Average loss per trader in FY 2024-25: Rs. 1.1 lakh (up 27%).
- Net losses of retail traders widened to Rs. 1.05 lakh crore in FY 2024-25 (up 41% from Rs. 74.812 crore in FY 2023-24).
- In FY 2024-25, 91% of individual traders in the Equity Derivatives Segment (EDS) incurred net losses, similar to the previous financial year.

### Recent SEBI measures in Equity Derivatives Segment

In the light of rising retail participation and alarming levels of losses in the Equity derivatives segment, SEBI introduced a series of regulatory measures between late 2024 and mid 2025. These steps aim to curb excessive speculation, enhance risk management, and ensure more informed and sustainable participation by individual investors. Below is the list of some of the key measures taken by SEBI

- Rationalized weekly Index derivative contracts to reduce speculative expiry-day trading.
- Increased tail risk coverage on expiry day to better manage volatility and systematic risk.
- Raised the minimum contract sizes for index derivatives to limit over-leveraging by low-capital traders.
- Standardized expiry days across Exchange to streamline derivative contract lifecycles.

- Mandated upfront collection of option premium from buyers to enforce capital discipline.
- Removed calendar spread margin benefits on expiry days to curb misuse of hedging strategies.
- Introduced intraday monitoring of position limits to prevent real-time breaches and ensure compliance throughout the trading session.

### 1. Demographic Profile and Awareness

The survey indicates that the typical derivatives trader in Bihar is a male (approx. 61%) aged between 25 and 40. There is a high level of "General Awareness" (82% know what F & I is), but "Functional Awareness" (understanding Greeks like Delta, Theta, or Margin Requirements) is below 15%.

### 2. Motivators Vs Barriers

- **Motivators:** The primary lure is leverage. Investors are attracted by the ability to control large positions with small capital.
- **Barriers:** Complexity and "Fear of Total Loss" remain the top deterrents for the majority of the population.

### 3. The Bihar Context: "Speculation over Hedging"

Interestingly, less than 5% of the respondents used derivatives for hedging their equity portfolio. The vast majority (95%) engaged in intraday option buying, which is the highest-risk category. This suggests that in Bihar, derivatives are traded more as a speculative instrument than a risk-management tool. Bihar is among the top three states (alongside Assam and Uttar Pradesh) showing the fastest growth in the number of new F & O traders. Between FY 2022 and FY 2024, the state saw 179% growth in participation.

### 4. Awareness Levels of Retail Investors in Bihar

Research conducted in key cluster like Muzaffarpur and Patna indicates a stratified level of awareness

#### a. Conceptual Awareness Vs. Functional Literacy

Most retail investors in Bihar are aware of the existence of "Option Trading" (largely through social media influence), but they lack functional literacy regarding.

- **Option Greeks:** Delta, Theta, and Gamma (time decay) are often misunderstood
- **Leverage:** Investors often fail to realize that small capital can control large positions, leading to total capital wipeouts.

#### b. Sources of Information

The primary drivers of awareness in Bihar are

1. **Social Media & Youtube:** Often promoting "get-rich-quick" strategies.
2. **Peer Influence:** A "herd behaviour" where our successful trade by a neighbour triggers a wave of local participation.
3. **Broker notifications:** Constant nudges from trading apps.

### Participation Trends and Demographic profile

The profile of Bihar-based retail investor is shifting

- **Age:** Predominantly young (20-35 years).
- **Geography:** Significant growth is coming from B30 (Beyond Top 30) cities like Darbhanga, Bhagalpur and Gaya.

- **Income Level:** A worrying trend shows that individual with annual income below Rs. 5 lakh are actively engaging in high-risk F & O trading.

**Table 1:** Growth of F & O Traders in selected Indian state (FY 22- FY 24)

State	% Growth
Assam	256%
Uttar Pradesh	186%
Bihar	179%
Maharashtra	65%

### Challenges and Policy Recommendations

The “Retail Rush” in Bihar faces several structural challenges

1. **Language Barriers:** Most advanced trading tools and educational materials are in English, whereas the retail base in Bihar is more comfortable with Hindi or regional dialects.
2. **Lack of Local Mentorship:** Unlike Mumbai, Bihar lacks a robust ecosystem of professional sub-brokers who provide genuine advisory services.
3. **Overconfidence Bias:** New traders often mistaken a bull markets luck for skill.
4. **Gambler’s Fallacy:** The belief that after a series of losses, a “big win” is due
5. **Lack of Professional Advisory:** Unlike institutional players who use algorithms, retail investors in Bihar often trade based on “tips” and intuition.

### Recommendation

- **Vernacular Education:** SEBI and NSE should launch intensive “Niveshak Chaupals” (Investor Meets) in Hindi to explain the mechanics of derivatives.
- **Regulatory Guardrails:** Implementing “Risk-O-Meters” on trading apps that trigger warnings when an investor’s exposure exceeds a certain percentage of their net worth.
- **Simulated Trading:** Mandating the use of paper trading” or virtual simulator for six months before the retail investors is allowed to trade real money in F & O.
- **Stricter “Fit and Proper” criteria:** Linking derivative exposure to a trader’s annual income and net worth to prevent ruinous losses.

### Conclusion

Financial derivatives in Bihar are at crossroads. While digital access has democratized the markets, it has also exposed a vulnerable population to high leverage risks without adequate preparation. The study concludes that for Bihar to truly benefit from capital market growth, the focus must shift from “Quantity of Participation” to “Quality of Awareness”. Without significant intervention in financial literacy, the derivatives market may continue to be a “Wealth-transfer mechanism” from retail investors to institutional players.

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