

The psychological impact of support and resistance level on institutional trading volume

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Abstract-This study explores the psychological impact of support and resistance levels on institutional trading volume in financial markets. These key price zones are widely recognized as indicators of potential reversals or breakouts and serve as important reference points for institutional investors. Drawing on behavioral finance theory, the study highlights how cognitive biases such as anchoring, herding, and overconfidence influence trading decisions near these levels. Institutional investors tend to increase trading activity as prices approach support and resistance zones, driven by expectations of predictable price behavior and strategic positioning. The study also emphasizes the role of collective behavior, information asymmetry, and market uncertainty in amplifying volume patterns. The findings suggest that support and resistance levels function as psychological anchors that shape institutional trading dynamics. By integrating behavioral insights with trading volume analysis, this study provides a deeper understanding of how market psychology influences price movements and institutional participation.

Keywords-Support and Resistance; Institutional Trading; Behavioral Finance; Market Psychology; Trading Volume; Herding Behavior

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I. INTRODUCTION

Support and resistance levels are widely recognized as important price levels that shape the equity trading decision-making of participants. These levels are said to influence the volume variation around them in a distinct fashion, with the psychology of market participants being the main driving force. This paper presents the modelling of this phenomenon in a framework that goes beyond technical analysis.

Whereas technical analysis focuses on the effect of a price level on traders' execution strategies, this work examines how institutional investors modify their risk perception and willingness to trade when an important price level is reached. While liquidity tends to increase as a price level is approached, either to test the support or resistance or to take advantage of the anticipated price reversal, the risks stemming from a breach of that level also grow. These opposing forces are formalized and explained through the risk-control objective of institutional investors. Empirical tests combine order-book and trades data with other financial time series to analyze equity trading volume intensities in the near vicinity of important price levels.

The presence of structural support and resistance levels, that is, levels that show signs of validity for longer time periods, generates a surface of traders' cognitive bias. More

traders are expected to place their orders with reference to these price levels rather than contrary. Despite much discussion about who establishes the levels and whether they truly exist, market participants' decisions are influenced by the decisions of others. Confirmation bias and anchoring effects play important roles. Such cognitive bias makes the interaction of price and important levels a zone of particular interest, where different forces coexist: anticipation of a bounce, of a break, provision of liquidity, control of execution risk, and information sensitivity..

II. LITERATURE REVIEW

1. Concept and Significance of Support and Resistance

Support and resistance levels are fundamental concepts in technical analysis, representing price points where market trends tend to pause or reverse. According to Murphy (1999), these levels emerge from the interaction of demand and supply forces and are reinforced through repeated price behavior. Early empirical work by Lo, Mamaysky, and Wang (2000) provided evidence that technical patterns, including support and resistance, may hold statistical relevance in financial markets, suggesting that such levels are not purely random phenomena.

2. Behavioral Finance and Psychological Anchoring

The relevance of support and resistance levels can be better understood through behavioral finance, which emphasizes the role of psychological biases in financial decision-making. Tversky and Kahneman (1974) introduced the concept of anchoring, explaining how individuals rely heavily on initial reference points when making judgments. In financial markets, these reference points often take the form of historical price levels.

Hirshleifer (2015) further argued that cognitive biases significantly influence investor behavior, even among sophisticated participants. As prices approach support or resistance levels, institutional traders tend to anchor their expectations around these points, leading to increased trading activity in anticipation of predictable price movements.

3. Institutional Trading Behavior and Market Impact

Institutional investors play a dominant role in financial markets due to the scale of their transactions. Sias (2004) found that institutional investors often exhibit herding behavior, particularly when responding to common market signals. Support and resistance levels serve as such signals, guiding institutional trading decisions.

Barberis, Shleifer, and Vishny (1998) highlighted that investor sentiment and psychological factors can influence market outcomes, reinforcing the idea that institutional behavior is not entirely rational. As institutions cluster their trades around key price levels, they contribute to increased trading volume and strengthen the significance of these levels in market dynamics.

4. Trading Volume and Market Activity at Key Price Levels

Trading volume is widely regarded as an important indicator of market strength and investor participation. Blume, Easley, and O'Hara (1994) emphasized that trading volume contains valuable information about market expectations and can enhance the predictive power of price movements.

Tkac (1999) provided empirical evidence linking institutional ownership with abnormal trading volume, particularly around significant price levels. Similarly, Chordia, Roll, and Subrahmanyam (2010) found that liquidity and trading activity tend to increase in response to market-wide information, which is often concentrated around support and resistance zones. These findings suggest that institutional trading volume is closely tied to the psychological importance of these levels.

5. Herding Behavior and Collective Market Response

Herding behavior is a key factor that amplifies the impact of support and resistance levels. Banerjee (1992) described herding as a situation where individuals follow the actions of others rather than relying on their own information. In financial markets, this behavior becomes particularly evident near widely recognized price levels.

Gabaix et al. (2005) demonstrated that large institutional trades can significantly influence market dynamics, leading to clustered trading activity. When institutions collectively respond to support and resistance levels, trading volume increases, and price reactions become more pronounced. This collective behavior reinforces the credibility of these levels and contributes to their persistence over time.

6. Overconfidence and Strategic Trading Decisions

Overconfidence is another behavioral bias that affects institutional trading decisions. Kahneman and Tversky (1979) highlighted that individuals often overestimate their ability to predict outcomes under uncertainty. In the context of financial markets, this bias can lead to excessive trading activity.

Glaser and Weber (2007) found that overconfident investors tend to trade more frequently, believing in their superior ability to interpret market signals. When applied to support and resistance levels, this bias results in increased trading volume as institutional investors aggressively position themselves based on expected price movements.

7. Information Asymmetry and Market Uncertainty

Support and resistance levels often coincide with periods of heightened uncertainty and information asymmetry. Merton (1987) suggested that differences in information availability among investors can influence trading behavior and market equilibrium.

Brailsford (1996) further noted that trading volume is affected by the flow of information and investor reactions to new data. At key price levels, institutions engage in activities such as liquidity provision and portfolio rebalancing, which contribute to increased trading volume. These actions are often responses to uncertainty and the need to manage risk in dynamic market conditions.

8. Research Gap

Although existing literature provides insights into technical analysis, behavioral finance, and institutional trading, there is limited integration of these perspectives. Most studies examine support and resistance, investor psychology, or trading volume independently.

There is a clear gap in understanding how psychological factors associated with support and resistance levels directly influence institutional trading volume. Addressing this gap would contribute to a more comprehensive explanation of market behavior by combining technical, behavioral, and structural approaches.

The reviewed literature indicates that support and resistance levels function as more than technical indicators; they serve as psychological anchors that shape investor expectations and trading behavior. Institutional investors, through their large-scale trading activities, reinforce these levels and contribute to observable patterns in trading volume. Behavioral biases such as anchoring, herding, and overconfidence, along with factors like information asymmetry and market uncertainty, play a critical role in driving institutional trading activity around these key price zones.

III. RESEARCH METHODOLOGY

1. Research Design

This study follows an empirical and analytical research design, focusing on real market behavior rather than purely theoretical assumptions. The objective is to examine how support and resistance levels interact with institutional trading

activity and how this interaction influences market psychology and trading volume patterns.

A market observation approach is adopted, where price action, volume behavior, and institutional participation are analyzed together to understand underlying dynamics.

2. Data Sources

The study is based on secondary market data collected from multiple reliable financial platforms. Price movements and chart patterns are analyzed using the TradingView platform, which provides detailed candlestick charts and volume indicators.

Institutional activity data, including Foreign Institutional Investor (FII) and Domestic Institutional Investor (DII) participation, is obtained from the National Stock Exchange (NSE) official website.

Additional insights into market positioning are gathered using:

- Option chain data from NSE
- Volume-based indicators from Sensibull
- Fundamental stock screening tools

These sources collectively provide a comprehensive view of both technical and institutional aspects of the market.

3. Sample Selection

The study focuses on highly liquid stocks and indices listed on NSE, where institutional participation is significant. Stocks are selected based on:

- High trading volume
- Consistent institutional activity
- Availability of option chain data

This ensures that the observations reflect meaningful institutional behavior rather than random price fluctuations.

4. Tools and Techniques Used

To analyze the relationship between support/resistance levels and institutional trading volume, the following tools and techniques are applied:

4.1 Chart Visualization (TradingView)

Price action is studied using candlestick charts to identify trends, reversals, and consolidation zones. Support and resistance levels are marked based on repeated price interactions.

4.2 Volume and Open Interest Analysis (Sensibull)

Volume and open interest data are used to detect institutional participation. Sudden spikes in volume near key levels are interpreted as signs of institutional involvement.

4.3 Fundamental Analysis (Stock Screener Tools)

Fundamental filters are applied to ensure that selected stocks have strong market relevance and institutional interest.

4.4 FII/DII Data (NSE Website)

Daily institutional buying and selling data are analyzed to understand broader market sentiment and confirm institutional activity.

4.5 Fixed Range Volume Analysis

The fixed range volume profile method is used to identify high-volume zones. These zones indicate areas where large market participants have accumulated positions.

4.6 Support and Resistance Identification (Option Chain Data)

Option chain analysis is used to identify key support and resistance levels based on:

- High open interest at specific strike prices
- Put-call concentration zones

These levels are treated as psychologically important price points.

5. Data Analysis Approach

The analysis is conducted by observing how price behaves when approaching identified support and resistance levels. Particular attention is given to:

- Volume spikes near key levels
- Breakouts and false breakouts
- Institutional activity patterns
- Price reactions after touching these levels

The relationship between institutional volume and price behavior is interpreted using behavioral finance concepts such as herding, fear, and market sentiment.

6. Interpretation Framework

The study interprets market behavior based on the following observed patterns:

- High institutional volume at support levels is treated as a sign of accumulation, creating a psychological sense of safety among retail investors, which often leads to herding behavior.
- Support and resistance levels without strong volume confirmation are considered weak and more likely to result in false breakouts.
- Clustering of orders near round numbers, often identified through option chain and volume data, is interpreted as institutional positioning, which can trigger emotional reactions such as fear of missing out or panic selling among retail traders.

This framework helps connect technical signals with psychological responses in the market.

7. Reliability of the Study

The study ensures reliability by using:

- Verified market data from NSE
- Consistent charting techniques

- Multiple tools for cross-verification

The use of different data sources helps in confirming observations and reducing the chances of misinterpretation.

8. Limitations

Certain limitations are acknowledged:

- Institutional trading strategies are not fully transparent
- Some interpretations rely on observed patterns rather than direct confirmation
- Market conditions and external news can influence results

Despite these limitations, the study provides meaningful insights into the relationship between psychological price levels and institutional trading activity.

This methodology combines technical analysis with institutional data to examine how support and resistance levels influence trading volume. By integrating chart-based observations with volume and option chain analysis, the study captures both the structural and psychological aspects of market

IV. DATA ANALYSIS AND FINDINGS

1. Institutional Volume at Support Levels

A consistent pattern observed across multiple charts is the presence of high trading volume near support zones. When prices approached these levels, there was a noticeable increase in buying activity, often followed by price stabilization or reversal.

This behavior indicates institutional accumulation, where large investors enter positions at perceived value levels. The increased volume at support creates a psychological sense of security among retail traders, encouraging them to follow the trend. As a result, a herding effect is observed, where retail participation increases in response to institutional signals.



Figure:1

The above figure clearly shows price reacting at both resistance and support zones. The repeated rejection at the resistance level indicates strong selling pressure, while the support zone is accompanied by increased institutional volume. The highlighted “institutional volume zone” demonstrates accumulation behavior, where large participants enter positions. This validates the observation that high

institutional activity at support creates a psychological safety net, encouraging retail traders to follow the trend.

2.False Breakouts in the Absence of Institutional Volume

Another important observation is the occurrence of false breakouts at support and resistance levels when trading volume is low. In several instances, prices temporarily moved beyond key levels but failed to sustain momentum due to the lack of institutional participation.

These breakouts were often followed by sharp reversals, indicating weak market conviction. The analysis suggests that support and resistance levels without volume confirmation are significantly less reliable, with a higher probability of failure.

3.Institutional Order Clustering and Market Reactions

The analysis also reveals that institutional trading activity tends to cluster around major round numbers and key price zones. Using option chain and volume profile data, it was observed that large orders are often placed near these levels, creating strong support or resistance.

These clusters are commonly associated with advanced trading strategies such as iceberg orders, where large trades are executed in smaller portions to avoid market detection. Despite being partially hidden, these orders influence price behavior and create noticeable volume patterns.

Such institutional positioning often triggers emotional responses among retail traders, including fear of missing out (FOMO) during upward movements and panic selling during declines. This interaction between institutional strategy and retail psychology contributes to increased volatility near key levels.

4.Volume Profile and Accumulation Zones

The use of fixed range volume analysis helped identify high-volume nodes, which represent areas of significant trading activity. These zones often coincide with support or resistance levels, indicating institutional accumulation or distribution.

When prices revisit these zones, similar reactions are observed, suggesting that past institutional activity continues to influence future price behavior. This reinforces the idea that support and resistance levels are not random but are shaped by underlying trading activity.



Figure:2

The figure illustrates a fixed range volume profile where high-volume nodes are clearly visible. These zones represent

areas of strong market participation and often act as key support or resistance levels. The market consolidating within the highlighted volume zone indicates institutional accumulation. The breakout from this region with increased momentum suggests that prior volume concentration plays a significant role in future price movement.

5. Option Chain Analysis and Institutional Positioning

Option chain data provided additional confirmation of key price levels. High open interest in put options was observed near support levels, while call option concentration was evident near resistance levels.

These patterns indicate that institutional investors are actively positioning themselves around these price zones. The alignment between option chain levels and actual price movements suggests that institutional expectations play a significant role in defining market boundaries.

V. DISCUSSION

1. Interpretation of Institutional Behavior at Key Price Levels

The findings of this study suggest that support and resistance levels are not merely technical constructs but are significantly shaped by institutional trading activity. When high trading volume is observed near support levels, it reflects deliberate accumulation by large market participants rather than random market movement.

This behavior alters the perception of market participants, particularly retail traders, who interpret such activity as a sign of stability. As a result, support levels reinforced by institutional volume tend to become self-sustaining, not only due to economic factors but also because of collective belief in their strength. This indicates that market structure is influenced as much by psychology as by capital flow.

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2. Volume as a Validation Mechanism

One of the key insights emerging from the analysis is the role of volume as a confirming factor in price movement. The occurrence of false breakouts in the absence of institutional volume highlights that price alone cannot be considered a reliable indicator of market direction.

Breakouts lacking volume support often fail because they do not reflect genuine market participation. In contrast, when price movements are accompanied by strong volume, they indicate commitment from institutional investors, thereby increasing the probability of trend continuation.

This reinforces the idea that volume acts as a bridge between technical analysis and behavioral finance, linking observable price patterns with underlying market intent.

3. Psychological Reactions and Herding Behavior

The study provides clear evidence of herding behavior among retail investors, particularly when institutional activity is visible at key levels. High volume near support zones creates a perception of reduced risk, encouraging more participants to enter the market.

This collective response amplifies price movements and strengthens the identified levels. However, it also introduces a feedback loop, where market participants rely heavily on perceived institutional signals rather than independent analysis.

Such behavior highlights the emotional dimension of trading, where decisions are influenced by fear of missing out and the desire to align with dominant market players.

4. Institutional Order Strategies and Market Impact

The clustering of institutional orders around round numbers and key price levels reveals the strategic nature of large-scale trading. Techniques such as iceberg orders allow institutions to execute large trades without significantly disrupting the market.

Despite their hidden nature, these orders leave identifiable traces in the form of volume clusters and repeated price reactions. These patterns influence short-term price dynamics and create zones of high sensitivity, where even small changes in sentiment can lead to significant movements.

This finding emphasizes that institutional strategies play a critical role in shaping both price behavior and trader perception.

5. Integration of Volume Profile and Option Chain Insights

The combined use of volume profile analysis and option chain data provides a more comprehensive understanding of market structure. High-volume nodes indicate areas of past trading interest, while option chain data reflects future expectations of institutional participants.

The alignment between these two forms of analysis suggests that support and resistance levels are reinforced by both historical activity and forward-looking positioning. This dual confirmation strengthens the reliability of these levels and highlights the importance of integrating multiple analytical tools.

6. Implications for Market Efficiency

The findings raise important questions about market efficiency. While financial markets are often assumed to reflect all available information, the observed influence of institutional behavior and trader psychology suggests that inefficiencies exist.

Price movements are not always purely information-driven but are also shaped by perception, sentiment, and strategic trading. The presence of false breakouts and herd-driven movements indicates that markets can deviate from rational expectations, at least in the short term.

This challenges traditional assumptions and supports the relevance of behavioral finance in understanding market dynamics.

CONCLUSION

This study set out to examine how support and resistance levels interact with institutional trading volume and how this interaction influences market psychology. The findings demonstrate that these price levels are not merely technical reference points but are actively shaped by the behavior of large market participants.

A key conclusion emerging from the analysis is that institutional trading volume plays a decisive role in strengthening support and resistance levels. When significant volume is observed at support zones, it reflects accumulation by institutional investors, which in turn creates a perception of stability among retail traders. This perception encourages participation and often results in herding behavior, reinforcing the price level further.

The study also highlights that price movements without volume confirmation lack reliability. Instances of false breakouts were more frequent in the absence of institutional participation, indicating that price action alone cannot be considered sufficient for decision-making. This emphasizes the importance of integrating volume analysis into technical evaluation to better understand market intent.

Another important conclusion relates to the strategic positioning of institutional investors around key price levels, particularly round numbers and high-interest zones identified through option chain data. These areas act as focal points for market activity, where both price reactions and trader emotions are intensified. The presence of institutional orders in such zones not only influences price direction but also triggers behavioral responses such as fear of missing out and panic selling.

The combined use of tools such as volume profile, open interest analysis, and option chain data further confirms that support and resistance levels are reinforced by both historical trading activity and forward-looking institutional expectations. This multidimensional perspective strengthens the understanding of how market structure is formed and maintained.

In conclusion, the study establishes that the effectiveness of support and resistance levels is deeply rooted in institutional behavior and the psychological responses it generates among market participants. By recognizing the interplay between volume, price levels, and investor sentiment, traders and analysts can develop a more informed and realistic approach to market analysis.

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