Trading in the Shadow of Retracements and Inefficiencies: Exploring Profitable Opportunities in the Market

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Abstract

The financial markets are often described as efficient, but there are still opportunities for exploitation if one can uncover these inefficiencies. In this research, we investigated the potential of inefficiencies by examining price action on lower time frame charts. The core idea behind this approach is the concept of identifying inefficient zones, which can be verified through the analysis of volume profile and order book data. The objective of this research is to check the hypothesis that inefficiencies can be exploited to make profits by using a clear price action-based signal, which is derived from the price volume domain concept.

The methodology employed in this study involves filtering out inefficient zones on the candlestick chart, utilizing the tools of price action, hypothesis testing, and the concept of equi-volume trading. The findings of this research indicate that 95% of these inefficient zones are filled within 400 candles in a one-minute time frame.

This research paper provides a comprehensive analysis of volume data to uncover inefficiencies in the financial markets. It demonstrates the potential for exploiting these inefficiencies by implementing a well-defined trading strategy based on identifying inefficient zones and using clear price action-based signals. It develops a strategy based on our hypothesis test.

Keywords: *Price Action Trading Strategy, Imbalance Candle, Hypothesis Testing, Equivolume Tick Trading."*

1. Overview:

1.1 Introduction & Background

1.1.1 What is Price Action?

Price action trading is a methodology that relies on historical prices (open, high, low, and close) to help us make better trading decisions. Unlike indicators and fundamental analysis, price action tells us what trend or direction the market is following. It involves studying past price movements and chart patterns to predict future price movements and trends. The idea is that historical price behavior reflects all relevant information and that this information is incorporated into current market prices, making them the most accurate representation of the underlying supply and demand dynamics. By analyzing price action, traders aim to identify key levels of support and resistance, trends, and other price patterns that can provide information about potential market direction.
According to the **efficient market hypothesis (EMH)**, it is not possible to consistently achieve abnormal returns through any investment strategy, as all relevant information is already reflected in the current market prices. For price action trading, the belief in the efficiency of the market is not necessarily a requirement, as the focus is on analyzing price movements and making informed decisions based on that information, regardless of whether the market is considered efficient or not.

1.1.2 Trading Tools for Price Action

Preferred tools for price action traders are breakouts, candlesticks, and trends. They also use theories such as support and resistance. Traders use these tools and ideas to develop strategies that work with their preferences.
Price action trading tools include candlestick charts for visualizing price movements over time, support and resistance levels to make buy or sell decisions, trendlines for identifying trends, price action patterns such as double tops or head and shoulders, price action signals for confirming patterns, and market context for informed decision making.

1.2 Our Hypothesis

"The market's tendency to retrace and fill inefficiencies provides a potential opportunity for profitable trades in liquid stocks."

Our hypothesis posits that when market inefficiencies arise, prices have a tendency to move towards correcting these inefficiencies or return to these inefficiency zones. Inefficient zones are identified as price levels where market orders are out of balance. For instance, when a large number of stocks are sold, the price drops and eliminates buy orders at those specific price levels, resulting in a sudden decrease in price. To locate these inefficiencies, we utilize the concept of imbalance candles as a means of detection."

1.3 Inefficiency in Stock Market

1.3.1 Define Imbalance

Order imbalance refers to a circumstance in which there is an unequal distribution of buy and sell orders for a specific asset, resulting in a mismatch between the asset's demand and supply. When the orders of buy or sell are slanted too heavily in one direction, it creates an imbalance leading to inefficiencies being created.

Volume Profile: The phenomenon of Volume Profile refers to the examination of the allocation of trading volume across varying price levels. This analysis seeks to comprehend the impact that the distribution of volume has on the interplay between supply and demand within the market, leading to imbalanced orders. Short-term imbalanced orders are frequently generated by the implementation of limit orders instead of market orders during trading operations. A scarcity of orders within a specific price range can result in gaps in the market, causing a temporary imbalance in the market's supply and demand dynamic.

Figure 1: Inefficiency visible in volume profile plotted with price levels

Algorithmic Trading:
Algorithmic trading or algo-trading uses a computer program that follows a defined set of instructions, more specifically algorithm, to place a trade. The trade can create profits at a rate and frequency that a human trader cannot match. The increasing use of algorithmic trading systems can exacerbate instances of order imbalance, leading to rapid price movements and creating short-term gaps in the market.

Inefficiencies caused by this should be more clearly visible in smaller time frames as these trades occur very rapidly. This is the reason that we are searching for imbalances in the one-minute timeframe.

Market Volatility: Significant market events, such as major news announcements or geopolitical events, can cause market volatility and contribute to instances of order imbalance as the majority of orders are placed on a single side - sell or buy based on the sentiment of the news.

1.4 Literature Review

Price action trading is a trading strategy that is based on the movement of an asset's price and disregards the use of indicators and other technical analysis tools. Studies have shown that price action trading can be a successful approach, as prices tend to repeat in the markets due to the behavior of market participants. For example, a study by [1] *Kean et al. (2018)* found that a price action-based trading strategy using candlestick patterns outperformed a buy-and-hold strategy in the foreign exchange market.

Price imbalance refers to a situation where the supply and demand for an asset are not in balance, leading to an unequal distribution of orders at a given price. And, Inefficiency in the market refers to a situation where the market price of an asset does not reflect its true value. This can occur due to a lack of information or an incorrect interpretation of information, leading to mispricing. Studies have shown that price imbalances and market inefficiencies can exist in financial markets, providing opportunities for traders to profit. For example, a study by [2] *Huang and Stoll (1997)* [found evidence of price imbalances in the US equity market, while a study by [3] *Gjerstad and Dickhaut (1998*) found evidence of market inefficiencies in the futures market.

In conclusion, price action trading, price imbalances, and market inefficiencies are important concepts in financial trading and have been widely studied in the literature. These concepts can provide opportunities for traders to profit, but they also carry risks. It is important for traders to understand these concepts and be aware of the limitations and challenges associated with them in order to make informed trading decisions.

1.5 Outline of Research Paper

This report is structured as follows: In section 2, we present a method of restricting the asset universe of choice using the statistical methods of constructing filters on the listed stock in NSE, which also accounts for the assets available on BlueShift.In Section 3, we present the results of our hypothesis testing, beginning with the introduction of a unique and innovative method for converting from the price-time domain to the price-volume domain. The experimental analysis of our hypothesis test is also presented in this section, providing insights into the effectiveness of our proposed strategy.

Section 4 sets out the trading strategy constructed to test out the profitability of the hypothesis accounting for risk management and strategy optimization through various statistical inferences from the previous section. In Section 5, we describe our investigations and the findings of profitability of hypothesis testing, and subsequently, we finally conclude acceptance/rejection. A discussion of our work and the conclusions are presented in Section 5. The report is concluded with Appendix 1 and Appendix 2, which contain a sample data set and a relatively complete explanation of the data fields.

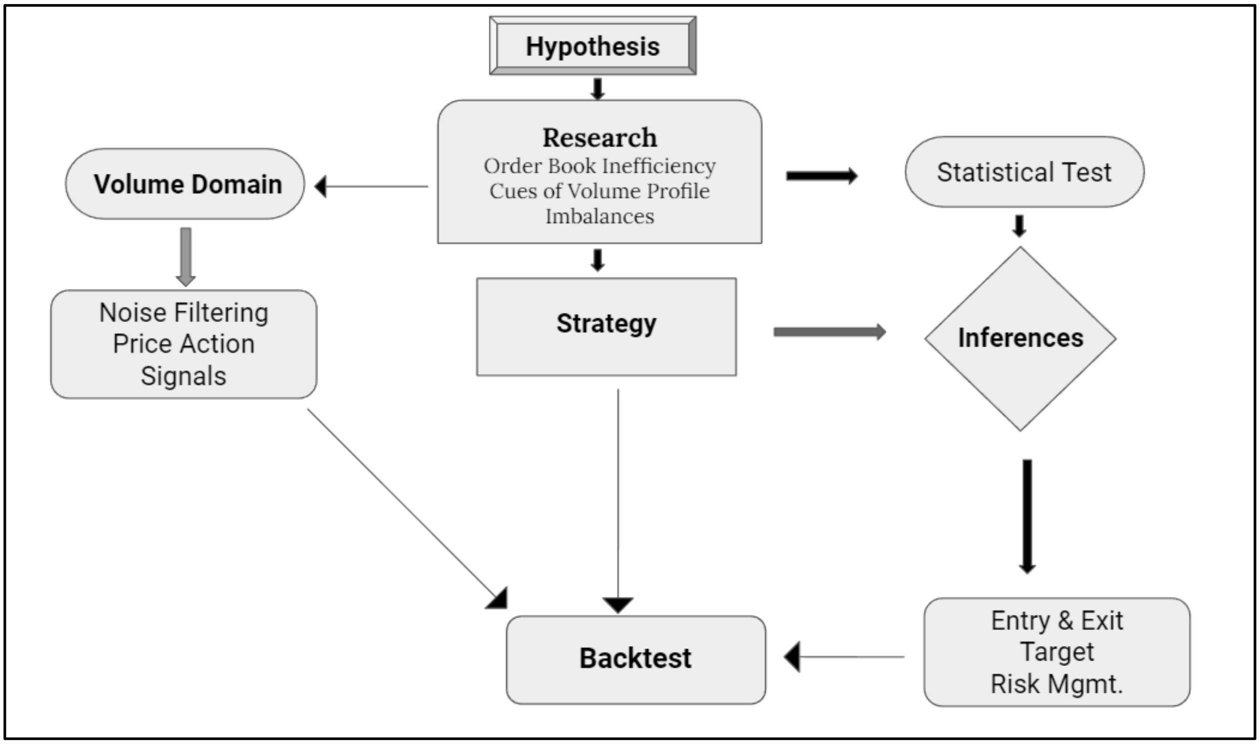

Figure: 2 Flow of the strategy and research done to test our hypothesis

2. Universe Selection

The universe selection refers to the process of selecting a subset of securities or assets from a larger pool to form the investment universe. The importance of universe selection lies in its ability to influence the performance of a trading strategy. A well-selected universe of assets can improve the accuracy and efficiency of the trading strategy by reducing the noise and volatility present in the broader market.

In this research, we have initially selected all the stocks which are listed on the NSE, then filtered them out on the basis of volatility and liquidity of the asset.

2.1 Criteria for filtering out stocks

Volatility:

Volatility in the stock price can create inefficiencies by causing rapid price movements that are not sustained. We have used the 5% industry standard on volatility, as mentioned in *Kim, Do-Guk & Ko's* [4] paper, and the return impacts of order imbalance, the volatility–volume relation becomes much weaker. This suggests that one major driving force behind the volatility–volume relation stems from the daily return impacts of order imbalance.

Liquidity:

In our research, we have used liquid Indian equity stocks because stocks that are too illiquid can be difficult to trade with algorithms due to the lack of buying and selling activity. On the other hand, highly liquid stocks can be too volatile, with prices changing rapidly, making it challenging for algorithms to execute trades without incurring significant losses

Non-penny stock:
We don't use penny stocks, because of a lack of transparency, market manipulation, price volatility, and huge market volume, due to which there can be multiple instances of the upper and lower circuit.

After applying these major filters, we have 202 stocks remaining out of 2897 stocks listed on NSE, which shows the robustness of the universe selection,
The list of stocks that we going to use is found in Appendix 1

3. Methodology

3.1 Inefficient Zone

An Inefficient Zone is defined as a potential gap in the market created by unfulfilled trades within the price levels of the zone. We have determined a specific area where a sudden shift in market structure occurred (in the price chart), and the price action throughout the entire candle-spanning region is nonexistent.

Figure 3: We clearly see inefficiency in the price level. Will the market retrace this zone?

Figure 4: This is a continuation of the above chart, here we clearly see that the market retraces to its inefficient zone within 114 candles

To identify inefficiencies in the candlestick chart, we define the following-

- **Imbalance Candle**: A candlestick having a body that closes at 80-90% with respect to its entire candle length, which occurs in a significant area, such as a structure breakdown.

- **Verify Candle**: An immediate next candle that marks the lower band of the zone and validates the existence of the zone. We indent to verify if the imbalance created is almost immediately filled by the next candle. If this is the case, we would not consider this as an imbalance zone.

- **Zone**: The upper band is defined as the lowest low of the preceding 30 candles, representing the maximum price where the minimal trading activity took place.

  On the other hand, the lower band is defined as the highest point of the reference candle, representing the highest point where trading activity resumed after the creation of the imbalance candle.

The difference between these two price levels constitutes our imbalance zone, which we have identified as a result of a sudden change in price within the imbalance candle and a subsequent absence of significant trading activity.

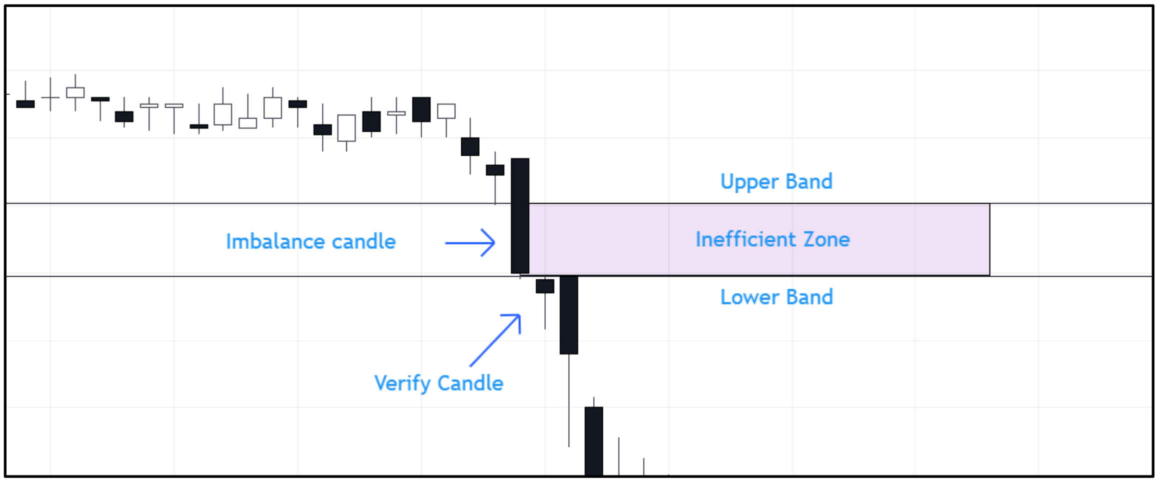

Figure 5: Clear depiction of identifying inefficiencies in the candlestick chart

Our approach involves identifying an imbalance candle with specific characteristics

1. A Marubozu or any highly bearish/bullish candlestick.
2. The body of the candle must be greater than three times the average range of the preceding 30 candles.

Once we have located such an imbalance candle, we use the lowest low of the previous 30 candles to define the upper bound of the inefficient zone. The lower bound is established using a reference candle, which verifies the potential inefficient zone. With this method, we aim to accurately define the inefficient zones in the market and analyze their impact on market behavior.

It is important to note that the Inefficient Zone we have defined is not a refined zone. To obtain a more precise definition of the Inefficient Zone, additional data, such as HFT tick data, would be required. However, we assert that the refined Inefficient Zone will be within the zone that is visible on the chart based on our analysis.

As our hypothesis focuses on testing the nature of the market in filling the inefficient zone, which requires identifying true reversals, we analyzed both the price-time and price-volume domains and their candlestick charts.

We found that in the price-time domain, proper price action is difficult to spot in the 1-minute time frame due to the high level of noise and fluctuations. The noise is defined as candles with low volume and low price change. As a result, many false buy signals are triggered, making it challenging to filter out good trades. However, by moving to the price-volume domain, We were able to filter out moves that occur on low volumes by combining them into a single candlestick, and then the trends and price actions were clearly visible.

The basic requirement to test our hypothesis was to catch reversals, and since reversals are known to be volume-driven, We have used the price-volume domain to identify potential reversals. In the next section, We will explain in detail what the price-volume domain is and how it works.

Figure 6: CandleStick Chart in Price Domain

Figure 7: CandleStick Chart in Volume Domain

3.2 Price - Volume Domain

3.2.1 What and Why Volume domain?

Price-Volume Domain: A method that groups price data based on volume, using equal volume bins. This eliminates low-volume noise and focuses on volume-driven price changes, resulting in improved analysis and decision-making in trading.

The reason for this is that it helps filter out the noise and clearly observe the price action. In the price volume domain, trend lines and candlestick patterns for reversal are easier to spot as the time is compressed into a single candlestick. This allows us to see pure price action, which is important for accurate analysis and decision-making in trading.

3.2.2 Pros and cons

Noise reduction: The price volume domain method helps filter out "noise" candles that are based on timeframes and have minimal price fluctuations, small candle bodies, wick sizes, and low trading volumes. These candles can result in unclear market trends and price movements and do not provide clear signals for trend direction detection and price action analysis. As we can see in *Figures 7 & 8* how converting data from the price domain to the volume domain reduces noise.

Clear trend detection: The elimination of noise candles results in a clearer definition of the trend of price action, which is depicted by candlestick patterns and can be used to deploy trading strategies.

Computational resources: The computation of volume-based candles in a 1-minute timeframe requires significant computational resources and a considerable amount of time, which may not be feasible for real-time analysis.

Converting candlesticks to volume bins in financial analysis helps filter noise but sacrifices time for information. In price-volume analysis, time is represented in discrete units, making it important to consider both the signal time and volume bar closing time for accurate results. Neglecting these factors can affect the analysis's accuracy.

3.2.3 Assumptions

- We made the assumption that market conditions change gradually over time and not suddenly or drastically. This assumption is crucial as sudden changes in volume can render the volume bin approach ineffective.
- We also assumed that large candles could indicate an imbalance in the market. A large-bodied candle suggests that either buyers or sellers were dominating and pushing the price in one direction, leading to an imbalance in the market.

3.2.4 Challenges & Improvement

- In our research on the price volume domain, one of the key challenges we encountered was the selection of the number of bins and the bin size (i.e., the threshold volume to combine candles). To address this challenge, we used a box plot of the volume distribution to obtain statistical inferences and decided to implement a dynamic volume bin allocation as the average volumes traded in a particular stock were not stationary with time rather they were gradually increasing.

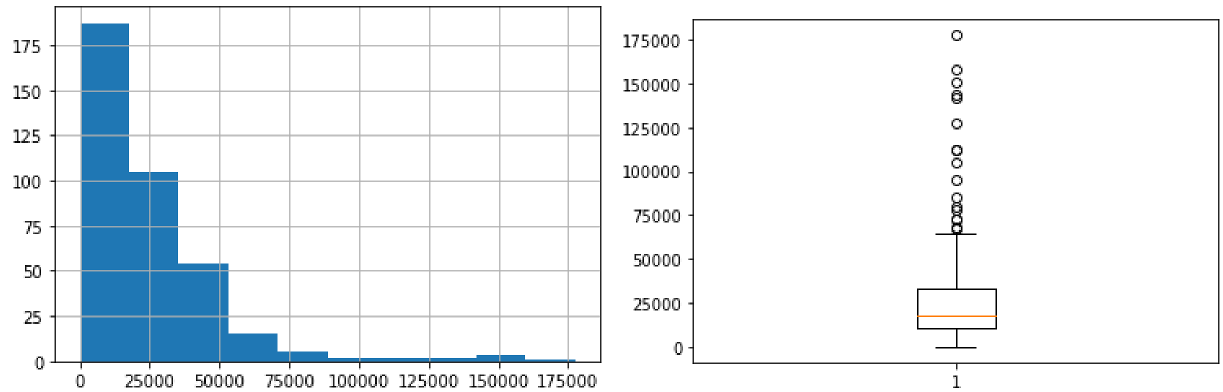

Figure 8: Histogram and boxplot( ) of volume distribution per minute candle

The reason for this was that the volume series is not always smooth and can change significantly in a short period of time, such as in cases of sudden spikes in volume. To address this, we used the rolling period bin size and the rolling of quantile means. This approach allowed us to dynamically allocate the volume bins, ensuring that the volume information was accurately reflected in the analysis. By doing so, we were able to improve the accuracy of our results.

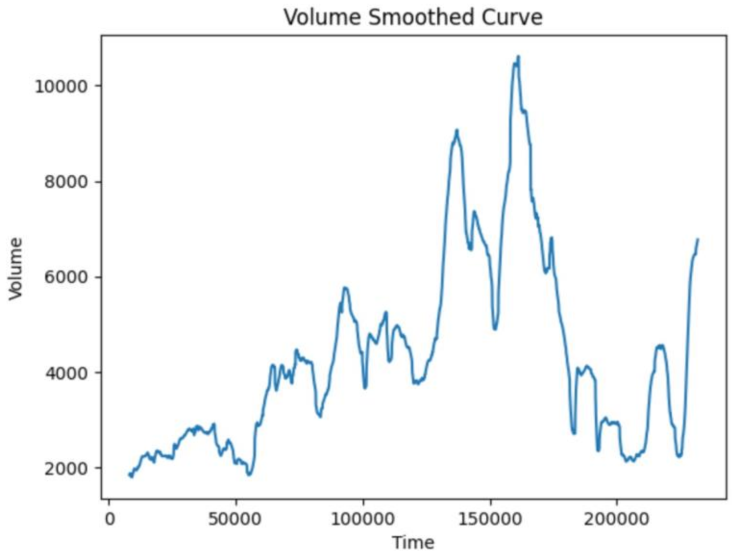

Figure 9: Rolling means of the volume of per minute candle

The absence of an order book or HFT data can limit the accuracy of this analysis. Without this data, it is challenging to identify the fully refined inefficient zone in the market, even in a 1-minute time frame. This highlights the importance of access to comprehensive market data for accurate analysis and predictions.

3.3 Hypothesis Testing

3.3.1 Steps in hypothesis testing

To test the hypothesis, we need to perform statistical procedures used to determine if the imbalance or market inefficiency would retrace or not in the future. In order to arrive at a robust strategy, we first use statistical tests for universe selection and retracement analysis and then use its result to construct the strategy based on the inferences section.

One of the most significant findings from our statistical testing was the observation that over 92.4% of the candles retreated within 3 hours, indicating that over 75% of the trades were closed within 15 minutes. This result has significant implications for the trading strategy. The following is a snippet of the findings:

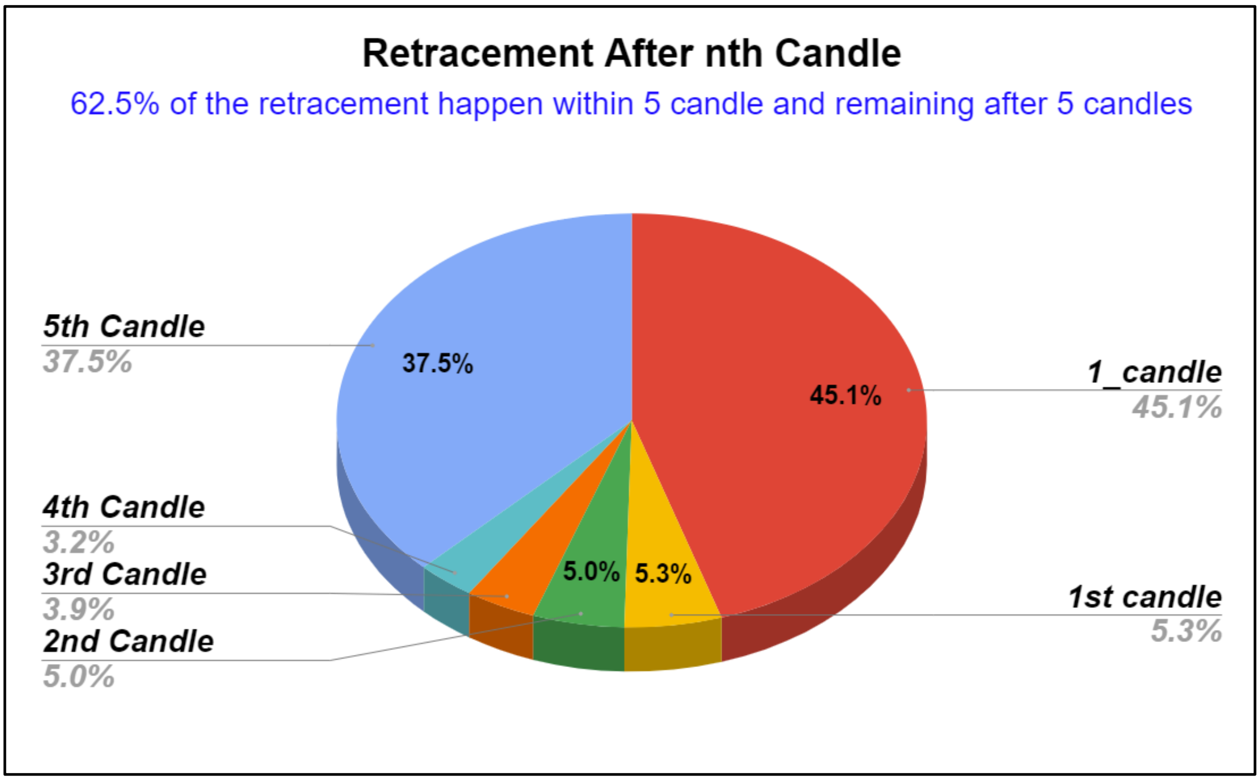

Figure 10: Retracement of the market within different candles

Furthermore, our analysis of the split between the number of candles it took to retrace back revealed that 95% of the time, it takes only three to four hours to fully exploit the inefficiency in the market. This information suggests that waiting for at least three hours in a trade would be sufficient to take advantage of market inefficiencies, and waiting longer than this could result in lost opportunities in other stocks; therefore, we inferred that defining a time-stop loss of between 3 to 4 hours would be optimal.

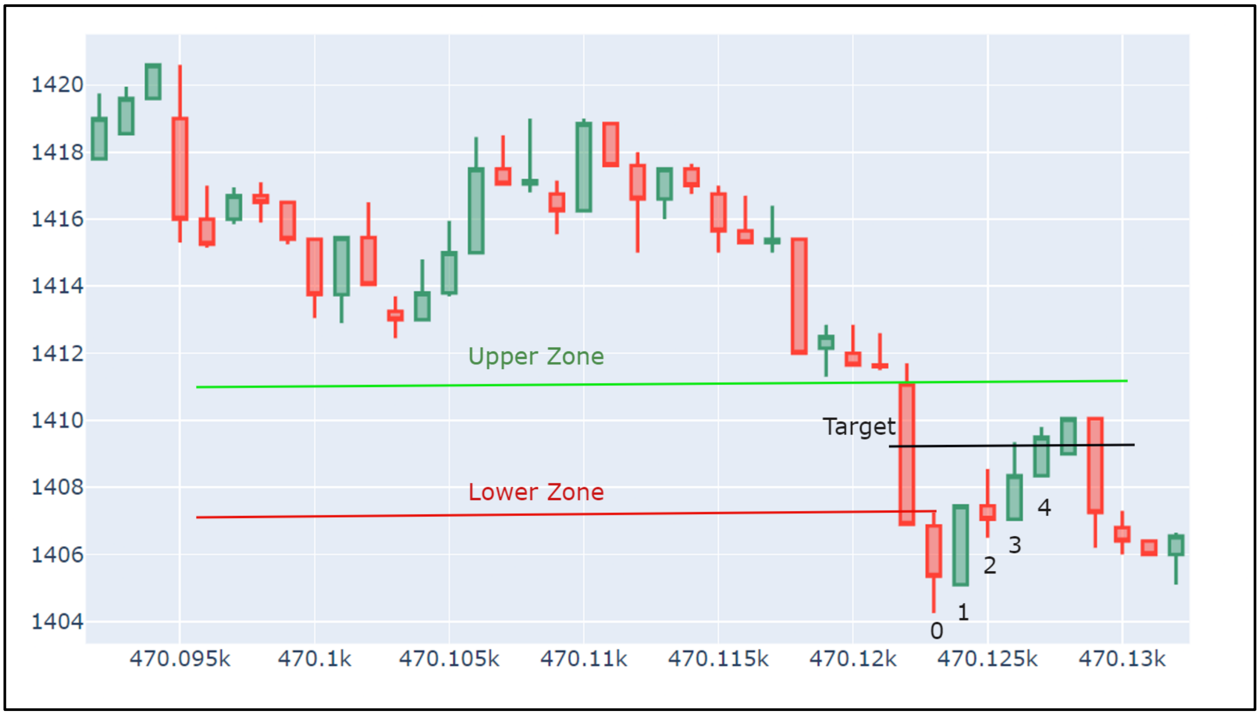

Figure 11: Shows upper and lower zone with the target (avg. of lower and upper) and its retracement within 4 th candle of ACC Cement having imbalance on ''2020-08-04 09:57:00''

Retracement Analysis	Total Stock Used	62
	Average total Signal	1995
	Average total retracement	1991
	Percent wise retracement	99.80%
Including all the candles	Mean retracement (Candle)	455
	Std retracement (candle)	4492
	95 Percentile (candle)	460
	90 percentile (candle)	124
	75 percentile (candle)	15
Excluding first 5 candle retracement	95 percentile (candle)	2753
	90 percentile (candle)	739
	75 percentile (candle)	139

Table 1: Retracement Analysis of Imbalance candle

This result highlights the importance of timely decision-making in trading and emphasizes the need to balance the exploitation of market inefficiencies with the efficient allocation of resources.

Our analysis of the data showed that most of the inefficiencies were closed within five candles. This finding is further supported by the observation that over 95% of the time, the market fills the gap. However, it is important to note that simply stating that 95% of the inefficiencies are filled is not sufficient. This is because it also matters after how many days the last inefficiency was filled.

The length of time it takes for an inefficiency to be filled can have a significant impact on the trading strategy. Further analysis is necessary to determine the average length of time it takes for an inefficiency to be filled and to evaluate the reliability of our findings.

3.4 Portfolio Allocation & Risk Management

In addition to the impact on the trading strategy, our findings also have important implications for risk management and portfolio optimization. By understanding the frequency and length of time it takes for inefficiencies to be filled, traders can better manage their risk exposure and optimize their portfolios.

Our analysis showed that the market fills the gap over 99% of the time and that 95% of the time it takes only three hours to fully exploit the inefficiency. This information can be used to optimize an AR portfolio by taking multiple entries at different levels and squaring off positions when the inefficiency is closed.

Furthermore, the results of our hypothesis testing indicate that 90% of the time zones will be revisited. This knowledge can be leveraged to make informed decisions about when to enter and exit positions and to optimize portfolio returns.

4. Our trading Strategy

This trading strategy is designed to take advantage of market inefficiencies that occur at certain price levels. The strategy is based on the concept of imbalance candles, which are identified by analyzing market data for price imbalances. It is hypothesized that the market will eventually retrace and fill the inefficiency visible in the imbalance candle, providing an opportunity for profit.

To enter a trade, the strategy waits for the detection of an imbalance candle and then takes a position on the next candle. The strategy aims to make a profit as the market retraces and fills this inefficiency, reaching the upper or lower boundary of the inefficient zone.

These steps represent the process of trading as per our strategy:

1. Identify the imbalance candlestick in the price-volume domain.

2. Mark the zones as described in previous sections.
3. Wait for the signal generation candle in the volume domain.
4. Set the stop loss and target at the upper limit of the zone.

An important part of the trading strategy is its stop-loss and target; there is not much scope for setting targets as it is fixed by the inefficient zone.

Exiting the position will depend on the stop-loss; while it is true that markets tend to eventually retrace the inefficiency, choosing the right stop-loss involves a trade-off between profitability (as a low value of stop-loss will get hit faster than the target) and the opportunity cost of trading inefficiencies that might occur when we are in a position. For simplicity, this report uses a strategy that does not take more than one position and trades only long.

As data suggest, most of the retracements (62%) occur within five candles as we can see in figure 10, we choose a stop-loss that is usually not hit within the next 4-5 candles. We take the standard deviation of price as a proxy for how much the stock moves per candle since we are two candles ahead. While finding the inefficient candle, we take stop-loss to be around three times (5-2=3) the standard deviation. Fine-tuning the value with backtesting, we use a value of around 3.5 times the standard deviation.

4.1 Entry & Exit Condition

Entry:
As discussed above, a long entry is taken when inefficiency is detected, for simplicity, we go long when inefficiency is detected, or when we detect the next previous candle to be inefficient, we place an order at the close of the current candle.
Exit:-

Target : Upper level of the zone
Stop-Loss : 3.6 * Standard Deviation (Close)

The trade will be closed once the imbalance zone is filled. Our hypothesis testing indicates that approximately 95% of imbalance zones are filled within one day.

4.2 Further research Aspect

Number of bins selection-DL model:
In our initial research, the selection of the number of bins was based on statistical parameters. However, further research is necessary to arrive at a more accurate estimate of the bin size. Deep learning models, specifically neural networks, have proven to be effective function approximators and could potentially be used to improve the accuracy of our bin size selection.

The use of deep learning models, such as neural networks, in the estimation of the bin size, has the potential to lead to more accurate results and could improve the overall robustness of our strategy.

Quantitative models in the volume domain:
In the field of quantitative trading, there have already been a number of models developed in the traditional price-time domain, including models such as the GARCH volatility prediction model. Despite this progress,

there is still a significant amount of untapped potential for research in the volume-price domain. This area of research has the potential to offer new insights and approaches to modeling and predicting market behavior and represents a promising area for future exploration.

5. Results & Discussion

Our hypothesis has undergone rigorous testing on a large sample of filtered stocks using the Python programming language. Our findings are documented in appendix 1, which includes sample return charts from the Python runs.

Figure 12: Backtest Results using Blueshift on 'Reliance' Stock Blueshift Link in Appendix[2.2]

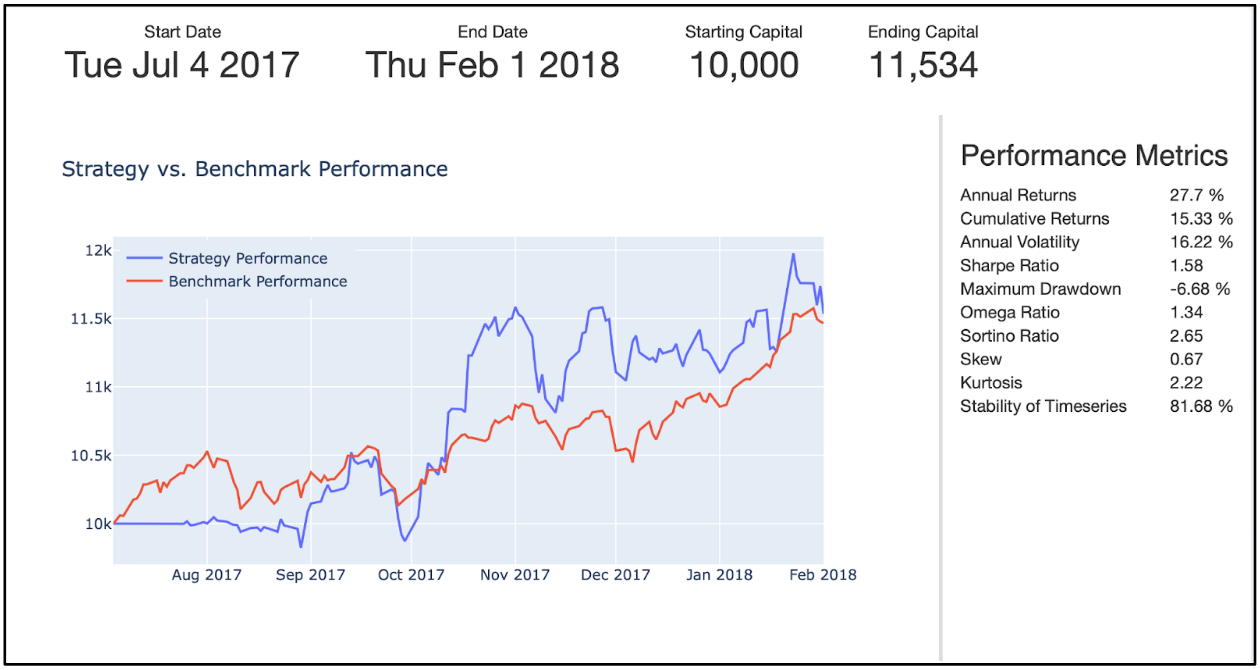

Figure 13: Backtest Results using Blueshift on 'Reliance' stock Blueshift Link in Appendix[2.3]

Figure 14: Backtest Results using Blueshift on 'TCS' stock

However, testing in the Blueshift platform was limited to only a few stocks and was unable to be backtested over the three-year period of July 2018 to July 2021 due to platform stability and performance issues. The platform also faced challenges, such as occasional 404 errors when trying to access the final backtest results after the completion of a backtest run.

A good sharpe ratio of 2.8 in the backtest results indicates that the strategy based on inefficiencies is in fact, profitable. The return on investment also suggests that the strategy can be worked upon in more depth to make consistent returns from the market.

We implemented in python the portfolio of multiple stocks that were obtained after the filtering, as given in appendix 2.2. The strategy is such that it takes trades in the stocks for which signals are generated, and a target and stop loss are defined for each trade. The benefit of using multiple stocks is that we don't have to take trades on weak signals just to satisfy the minimum trades per month condition.

6. Hypothesis Acceptance and Conclusion

Hypothesis Accepted through empirical results backed by Blueshift Backtesting.

In the conclusion section of our report, Based on the evidence we have gathered, we are in a position to accept our hypothesis that the market's tendency to retrace and fill inefficiencies provides a potential opportunity for profitable trades in liquid stocks. Our research supports the hypothesis that market makers eventually fill the inefficiencies, and our trading strategy offers a promising approach to take advantage of these market dynamics.

The first and most important factor supporting our hypothesis is the positive return we have generated through counter-trading. Our backtest results using the Blue Shift have also supported our hypothesis. We were able to achieve substantial outperformance stocks, such as Asian paints, Indigo, ITC, ACC, etc., from our universe, even though the strategy has limited upside potential and operates under mean-reversion principles. The profitability of our strategy provides further proof that our hypothesis is accurate.

Additionally, our statistical tests are in line with the theory that market makers will eventually fill any inefficiencies in the market. These tests have shown that 95% of the zones we identified were filled within the same day, thus offering a promising approach to take advantage of these market dynamics.

7. Reference

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[5] Historical 1-minute data of Nifty 100 Stocks:
https://www.kaggle.com/datasets/debashis74017/stock-market-data-nifty-50-stocks-1-min-data

8. Appendix

1. Stocks :

List of stocks: 'APOLLOHOSP', 'BAJAJFINSV', 'BERGEPAINT', 'BRITANNIA', 'COLPAL', 'DRREDDY', 'GRASIM', 'HDFCBANK', 'HINDUNILVR', 'INDIGO', 'ITC', 'LICI', 'MARICO', 'NESTLEIND', 'ONGC', 'PNB', 'SBILIFE', 'TATACONSUM', 'TITAN', 'WIPRO', 'ADANIENT', 'ASIANPAINT', 'BAJAJHLDNG', 'BHARTIARTL', 'CADILAHC', 'DABUR', 'EICHERMOT', 'HAVELLS', 'HDFCLIFE', 'ICICIBANK', 'INDUSINDBK', 'JINDALSTEL', 'LT', 'MARUTI', 'NIFTY 50', 'PEL', 'POWERGRID', 'SBIN', 'TATAMOTORS', 'TORNTPHARM', 'YESBANK', 'ADANIGREEN', 'AUROPHARMA', 'BAJFINANCE', 'BIOCON', 'CHOLAFIN', 'DIVISLAB', 'GAIL', 'HCLTECH', 'HEROMOTOCO', 'ICICIGI', 'INDUSTOWER', 'JSWSTEEL', 'LTI', 'MCDOWELL-N', 'NIFTY BANK', 'PGHH', 'RELIANCE', 'SHREECEM', 'TATASTEEL', 'ULTRACEMCO', 'ADANIPORTS', 'AXISBANK', 'BANDHANBNK', 'BOSCHLTD', 'CIPLA', 'DLF', 'GLAND', 'HDFC', 'HINDALCO', 'ICICIPRULI', 'INFY', 'JUBLFOOD', 'LUPIN', 'MUTHOOTFIN', 'NMDC', 'PIDILITIND', 'SAIL', 'SIEMENS', 'TCS', 'UPL', 'ADANIPORTS', 'AXISBANK', 'BANDHANBNK', 'BOSCHLTD', 'CIPLA', 'DLF', 'GLAND', 'HDFC', 'HINDALCO', 'ICICIPRULI', 'INFY', 'JUBLFOOD', 'LUPIN', 'MUTHOOTFIN', 'NMDC', 'PIDILITIND', 'SAIL', 'SIEMENS', 'TCS', 'UPL', 'ACC'

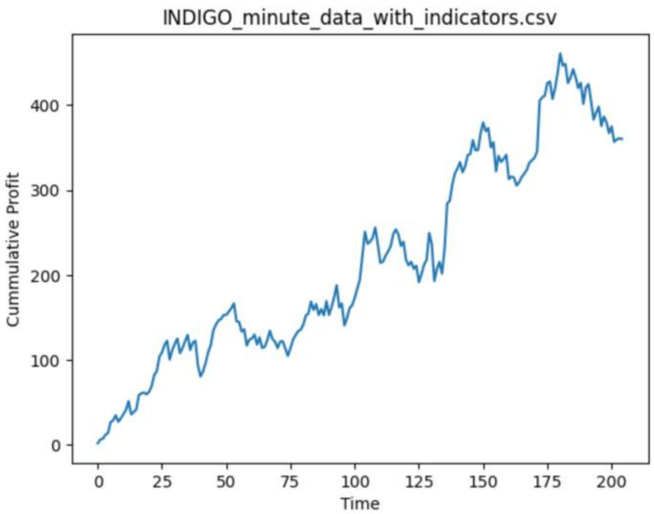
2. Python Code :

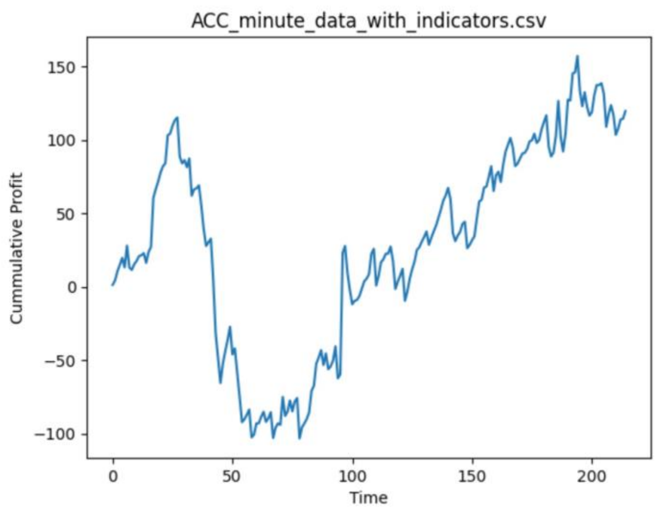
[2. 1] Python file (‘ipynb’) of multiple stock trading:
https://drive.google.com/file/d/1-LLboBfu0DSArPt-v8cL_oMh_0ib4Ef3/view?usp=sharing

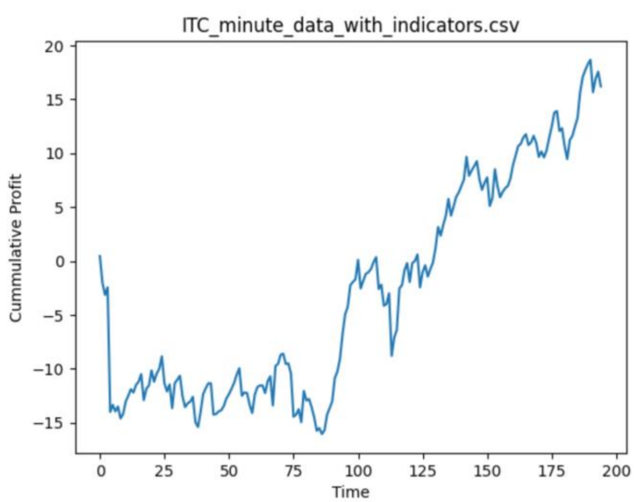
Blueshift Backtest -
[2.2] Blueshift backtest link for RELIANCE July ‘17 to Nov’ 18
https://blueshift.quantinsti.com/research/strategies/backtest/q_gpCpzDzBD/key_metrics

[2.3] Blueshift backtest link for RELIANCE July ‘17 to Feb’ 18
https://blueshift.quantinsti.com/research/strategies/backtest/wZ8ZKMxOHRR/key_metrics

These below mention graphs are cumulative profit vs time


INDIGO_minute_data_with_indicators.csv
Cummulative Profit
Time
0
100
200
300
400
0
25
50
75
100
125
150
175
200


ACC_minute_data_with_indicators.csv
Cummulative Profit
Time
−100
−50
0
50
100
150
0
50
100
150
200


ITC_minute_data_with_indicators.csv
Cummulative Profit
Time
−15
−10
−5
0
5
10
15
20
0
25
50
75
100
125
150
175
200