

A Study on the effectiveness of Inside Bar as a technical analysis tool compared to the Index return.

Ass. Prof. Anand Shah
JVIMS MBA College, Jamnagar

Email id: anand.shah@oshwaleducationtrust.org

Ph.: +91 98982 78495

Abstract

The study of various Candlestick Patterns, Chart Patterns, Support & Resistance, Demand & Supply Psychology, and several other indicators is known as technical analysis. It not only includes such patterns but also considers using some of the statistical tests. Accurately predicting the stock market is very difficult, but technical analysis greatly assists a lot in making it simpler to anticipate the market to a certain extent to make profit by navigating along with statistical analysis and behavioral economics to know when to enter or exit a trade.

This research paper is focused upon the effectiveness of INSIDE BAR – a candlestick pattern which determines the indication of price trend and momentum action which is measured independently upon selected stock which falls on A group so that cannot be operated or manipulated easily. Along with that it is further compared with benchmark Nifty50 by further sorting of same into bullish as well as bearish trend separately.

Introduction

The following are two equally important ways of analyzing the stock market depending on how the trader is trading and his trading style. Both types of stock market analysis have their own pros and cons and none of them can be said to be the only perfect way to analyze the stock.

- Fundamental analysis
- Technical analysis

Where fundamental analysis is majorly based on the economic and financial factors related to the stock it is derived with the help of a balance sheet and income statement of the company. Technical analysis involves the price movements of the stocks, reading its charts.

Inside Bar

This candlestick pattern resembles with Japanese harami candle form derived forming from one candle base from other. It is a two-candle pattern that begins with a larger range period followed by a candle that has a range entirely within the first candle. This second candle is viewed as baby candle.

It is a price action trading strategy where the inside bar is smaller and within the high-low range of the previous bar (popularly known as mother bar). The candle forming within highs and lows of mother candle is termed as inside bar in an inside bar, it is referred as an “IB”, and its mother bar referred as “MB”.

The third candle showing the price momentum is called the confirmation candle. In confirmation candle the closing price is taken into consideration. It is often said as “CB” Inside bars work best on the daily chart time frame, primarily because on lower time frames there are just too many inside bars and many of them are meaningless and lead to false breaks. Inside bars typically offer good risk reward ratios because they often provide a tight stop loss placement and lead to a strong breakout as price breaks up or down from the pattern.

Mechanism of Trading using Inside Bar

1. The first candle (mother candle) should cover the second candle (baby candle) completely.
2. It is not necessary to have both candles in different colors but there is more accuracy when the color of mother candle and baby candle is opposite to each other for strong signal.
3. The third candle is considered as confirmation candle as it gives confirmation weather to execute order or not.
4. The closing price of confirmation candle is considered as entry point.
5. The closing candle must close above the high of the mother candle with green in color then only it is considered as bullish signal.
6. The closing candle must close below the low of mother candle with red in color then only it is considered as bearish signal.
7. The confirmation candle should not be doji candle otherwise false signal.

8. This can be performed with different time frames like hourly, daily and monthly. Yet it is ideal to take the daily horizon.
9. Stop loss and exit is determined with low of mother candle in bullish trend.
10. High of mother candle is determined with stop loss of bearish trend and exit position is taken into consideration.

Literature Reviews

J. Henning Fock, Christian Klein and Bernhard Zwergel in the year 2005 carried out research on “Performance of Candlestick Analysis on Intraday Futures Data”. They start by developing specific criteria for a set of basic candlestick patterns, and then measure predictive performance with intraday data from two major futures, the DAX stock index contract, and the Bund interest rate future. They found no evidence of predictive ability from candlestick patterns alone, or in combination with other common technical indicators, like momentum.

Robert Faff, in the year 2014, carried research on “The profitability of candlestick charting in the Taiwan stock market Pacific” to examine the predictive power of candlestick charting by using the daily data for the Taiwan stocks for the period from 4 January 1992 to 31 December 2009. The findings reveal that four patterns are profitable for the Taiwan stock market after transaction costs, and a bootstrap analysis, out-of-sample, and several sub-samples are examined to confirm the robustness of the results.

Manoharam H., Rajesh Mamila, in the year 2020, carried research on “Effectiveness of Technical Analysis - A Study on Indian Stocks Using Candlestick Approach” and the study asserts that Candlestick pattern offers a better return than raw bench return. The study also brought into light that effective use of stop loss in combination with candle pattern-based trading strategy offers better profitability than the buy and hold strategy.

Robert D. Edwards, John Magee, W. H. C. Bassett, in the year 2018, did research on “Technical Analysis of Stock Trends” and found patterns and modifiable charts that are tighter and more illustrative. Expanded material is also included on Pragmatic Portfolio Theory as a more elegant alternative to Modern Portfolio Theory; and a newer, simpler, and more powerful alternative to Dow Theory is presented.

John Magge, in the year 2015, studied "Technische Analyse von Aktie in trend analysis and stock" and concluded that you limit your trading potential to the point where you are more likely to accept subpar setups. Inside bars should thus be treated as another tool in your trading toolbox rather than the toolbox itself. As a result, it is critical to treat inside bars as another tool in your trading toolbox rather than the toolbox itself. The inside bar setup can produce consistent profits, but only for traders who keep the characteristics discussed above in mind.

Nial Fuller - Price Action Trader, Author & Coach, in the year 2018 did research on "Reversal and breakout trading strategies" concluded that A daily chart inside bar will look like a 'triangle' on a 1 hour or 30-minute chart time frame. They often form following a strong move in a market, as it 'pauses' to consolidate before making its next move. However, they can also form at market turning points and act as reversal signals from key support or resistance levels.

Andrew W. Lo, Harry Mamaysky, Jiang Wang, in the year 2002, carried research on "Foundations of Technical Analysis Computational Algorithms, Statistical Inference, and Empirical Implementation", and concluded that by comparing the unconditional empirical distribution of daily stock returns to the conditional distribution—conditioned on specific technical indicators such as head-and-shoulders or double bottoms—we find that over the 31-year sample period, several technical indicators do provide incremental information and may have some practical value.

Thomas Bulkowski, in the year 2000, did research on "Expert system for predicting stock market timing using a candlestick chart", the experimental results revealed that the developed knowledge base could provide excellent indicators with an average hit ratio of 72% to help investors get high returns from their stock investment. Through experiments from January 1992 to June 1997, it was proven that the developed knowledge base was time-and field-independent.

Research

Statement of Problem

Several research papers have been done in the technical analysis of various stocks and specific sectors. But very few research is done on specific studies. In this research, the impact of the specific candlestick pattern – INSIDE BAR, is tried to measure. Whether this pattern is giving returns or not.

From the above table it can be observed that the H0 is rejected for all the seven trading sessions as the Observed Values are less than the Table Value at 5% significance level. That means there is better return by Inside Bar strategy as compared to Nifty movement. This also confirms that the Inside Bar is a good strategy a trader can rely upon.

Comparison 2 – Comparison of Nifty Return and Inside Bar strategy return for 7 trading sessions only during Bullish indication by Inside Bar strategy indicating Bullish Signal for 39 samples.

H0 – There is no significant difference in the return of Index and Inside Bar Trading Strategy.

H1 – There is a significant difference in the return of Index and Inside Bar Trading Strategy.

	T+1	T+2	T+3	T+4	T+5	T+6	T+7
Observed Value	0.710119	0.017844	0.056313	0.101939	0.066491	0.079590	0.160829
Tabulated Value	2.024394	2.024394	2.024394	2.024394	2.024394	2.024394	2.024394
H0	Rejected	Rejected	Rejected	Rejected	Rejected	Rejected	Rejected

From the above table it can be observed that the H0 is rejected for all the seven trading sessions as the Observed Values are less than the Table Value at 5% significance level. That means there is better return by Inside Bar strategy giving **Bullish Indication** as compared to Nifty movement. This also confirms that the Inside Bar is a good strategy a trader can rely upon.

Comparison 3 – Comparison of Nifty Return and Inside Bar strategy return for 7 trading sessions only during Bearish indication by Inside Bar strategy indicating Bearish Signal for 21 samples.

H0 – There is no significant difference in the return of Index and Inside Bar Trading Strategy.

H1 – There is a significant difference in the return of Index and Inside Bar Trading Strategy.

	T+1	T+2	T+3	T+4	T+5	T+6	T+7
Observed Value	0.002640	0.015954	0.250544	0.787444	0.19421	0.082326	0.164324
Tabulated Value	2.085963	2.085963	2.085963	2.085963	2.085963	2.085963	2.085963
H0	Rejected	Rejected	Rejected	Rejected	Rejected	Rejected	Rejected

From the above table it can be observed that the H0 is rejected for all the seven trading sessions as the Observed Values are less than the Table Value at 5% significance level. That means there is better return by Inside Bar strategy giving **Bearish Indication** as compared to Nifty movement. This also confirms that the Inside Bar is a good strategy a trader can rely upon.

Findings

- Inside Bar proves to be a good strategy in the short run, giving good returns compared to movement of the index.
- Inside Bar signals prove to be good technical analysis strategy in both Bullish indication as well as Bearish Indication.
- Out of 60 samples there have been 58 successful samples in which inside bar is executed although there is presence of few negative returns and 2 triggered stop loss which shows great efficiency to an extent.
- Inside bar provides continuous increase in average return from 1.71 to 3.07% from T+1 to T+7 trading days respectively in bullish trend and which gives average return about 61.41% a day to 110.63% considering average of 252 days (about 8 and a half months) working stock market.
- In the combined trend the highest average return is seen on the 6th day.
- In an independent bullish stock trend analysis, the highest average return is observed on the 7th day.
- In an independent bearish stock trend analysis, the highest average return is observed on the 6th day.

Conclusion

The formation of inside-bar candle can indicate to a trader about the market sentiment by helping investors know about when to enter a trade along with information related to the price as per trend prevailed in market. This is a great technique to ascertain the profit potential and market risks involved. This Pattern is easy to identify and comprehend, if one makes a little effort to study them. This candle be used for various avenues such as forex, stocks or indices, as well as in conjunction with many other technical indicators to minimize risk. There is great accuracy and efficiency observed while working under this research.

References

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