



Optimal Return Analysis Using Ichimoku Kinko Hyo on the LQ45 Indonesia Stock Exchange

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Abstract. One of the indicators used in technical analysis to analyze stock trends is Ichimoku Kinko Hyo. Ichimoku Kinko Hyo itself has four components: Tenkan Sen, Kijun Sen, Chikou Span, and Kumo. The four components can be used independently, in pairs, or as a whole. This study aims to analyze the rate of return of the variation of the Ichimoku Kinko Hyo component on the LQ45 Indonesia Stock Exchange and determine the type of variation that provides the optimal rate of return. This study used a qualitative method using secondary data types: chart images of issuers registered in LQ45 with the Neo HOTS application from January 2020 to December 2021. The sample was taken with the criteria: issuers must stay in LQ45 from January 2020 to December 2021. Data processing was carried out by backtesting simulations based on buy and sell signals generated by each Ichimoku Kinko Hyo component variation. Then, the return, Mean Absolute Deviation, and the number of issuers that generate profits from each of these variations were calculated to see the type of variation that gives the optimal return. The results of this study indicate that the least optimal return is generated from the use of the entire Ichimoku Kinko Hyo component, and the most optimal return is generated from the use of the Chikou Span component.

Keywords: Optimal return · Technical analysis · Ichimoku Kinko Hyo

1 Introduction

The Covid-19 pandemic has forced the Indonesian government to make policies to overcome it, namely by limiting people's mobility. As a result, many sectors experienced a decline in their business, resulting in many layoffs. This situation forces the affected communities to seek new livelihoods to survive, one of which is investing in the capital market.

The capital market can be an abstract market where long-term funds are traded, namely funds tied up in investments for more than one year [1]. According to Fakhruddin [2], the capital market is a market for various long-term financial securities that can be traded, either in debt or own capital. Securities traded in the capital market include stocks, bonds, and various other forms of securities. The capital market has a significant role in a country's economy because the capital market performs two functions at once, namely the economic and financial functions. The capital market is said to have an

economic function because it provides facilities or vehicles that bring together two interests, namely parties who have excess funds or parties who will invest their funds (investors) and parties who need funds, such as companies (issuers).

While, it is said to have a financial function because the capital market provides the possibility and opportunity to get a return for the owner of the funds, according to the characteristics of the chosen investment [2].

The stock exchange is an institution/company that organizes/provides system (market) facilities to bring together offers of buying and selling securities between various companies or individuals involved in trading the securities of companies that have been listed on the Stock Exchange [2]. Until April 2021, IDX has 40 stock indexes, one of which is LQ45. According to IDX itself, LQ45 is an index that measures the price performance of 45 stocks that have high liquidity and large market LQ45 was launched on February 1, 1997, and uses the Capped Free Float Adjusted Market Capitalization Weighted Average calculation method to determine which issuers are eligible to enter it [3].

Two activities can be done when investing in the capital market: trading and investing. Trading is the activity of buying at a low price and selling at a higher price in a relatively short time to make a quick profit. The purpose of trading is to collect profits from the difference between the buy and sell prices. Investment is the placement of an amount of money or capital in an instrument (e.g., stocks, gold, bonds), hoping that the funds will increase [4].

May [4] said that “the difference between investing and trading lies in the time span of buying and selling. If trading is done in a fairly short time span, investments are made over a long time, i.e., in months to several years. The huge time span difference between trading and investing makes the strategies used in trading and investing very different and cannot be mixed up” [4]. According to Ong [5], the time horizon is broadly divided into three parts, namely:

1. Short-term: less than three weeks
2. Medium-term: between three weeks to several months
3. Long-term: more than a year [5].

Since 2019, the number of investors in the Indonesian capital market has continued to experience a significant increase. The majority of investors in the Indonesian capital market today are millennials. According to Ahyad [6], “One of the effects of the development of information technology on the character of the Millennial Generation is the desire to process and obtain fast-paced results”. So it can be concluded that most Indonesian capital market investors are short-term traders [6].

Hafidh [7] said that stock investors could benefit from dividends and capital gains. According to the Big Indonesian Dictionary (KBBI), dividends are part of a company’s profit or income, which is determined by the board of directors and approved by the shareholders’ meeting to be distributed to shareholders. While the capital gain is the profit obtained from the difference between the purchase price and the selling price, the selling price must be higher than the purchase price. Most investors prefer to benefit from capital gains compared to dividends because the value of profits from dividends is not too large and is only obtained once or twice a year [7].

There are two methods of analyzing stocks: fundamental and technical analysis. Fundamental analysis is an in-depth analysis that focuses on financial statements. Technical analysis examines stock movements through historical data of opening, closing, highest prices, lowest prices, and stock trading volume [8]. Technical analysis has a more significant impact on traders with a shorter time frame, while investors use fundamental analysis with a longer view [5].

Things to consider when analyzing stocks technically are trends, support, and resistance. A trend can be defined as the tendency of the direction of price movement in a market. In Dow Theory, it is said that there are three types of trends: Uptrend, Downtrend, and Sideways. The support line is the level where there is a tendency for prices to rise because there are more buyers than sellers, or demand is greater than supply. Meanwhile, the resistance line is the level of a tendency for prices to fall because there are more sellers than buyers, or supply is greater than demand [4].

Ichimoku Kinko Hyo is one of the indicators used in technical analysis. Peloille [9] explained, “This system is Ichimoku Kinko Hyo, which allows traders to understand market movements with one single glance” [9]. Ichimoku Kinko Hyo was first created by an economic journalist named Goichi Hosoda, who works at the Tokyo Metropolitan Newspaper. Ichimoku consists of four components, namely: Tenkan Sen, Kijun Sen, Chikou Sen, and Kumo. According to Anthony [10], the four components can be used as indicators individually, in pairs, and as a whole [10]. But Patel [11] argued, “Many people have tried to use only two or three components and have failed miserably” [11].

The authors conducted pre-research with investment simulations on 45 issuers who are members of LQ45 on January 2, 2020, using a buy and hold technique that is considered to represent a long-term investment. As a result, the investment provided a capital loss of -7.56% on December 30, 2021. Moreover, of the 45 issuers, 29 issuers experienced capital losses. These results prove that during the pandemic, long-term investment methods are not the correct choice because the majority of issuers provide capital losses. Trading with a shorter timeframe is expected to give a better return.

This paper aims to determine the rate of return, Mean Absolute Deviation, and the number of issuers that generate capital gains from each variation of the Ichimoku Kinko Hyo component. Then a thorough assessment was carried out so that the variation of the Ichimoku Kinko Hyo component was obtained, which provides the most optimal stock return.

2 Research Methods

The data collected in this study include the highest high, lowest, low, and closing prices formed from daily trading on the Indonesia Stock Exchange. Data collection was carried out using the Neo HOTS application from Mirae Asset. The research population was issuers that entered LQ45 on January 2, 2020. Sampling was carried out by setting the criteria that the issuer under study must remain in LQ45 from January 2020 to December 2021. As a result, 35 issuers were obtained as a sample.

The analytical method used in this study was to use variations of Ichimoku Kinko Hyo's components to determine the issuer sample's buy and sell signals. Then the return generated from the buy and sell signals is calculated to see which type of component variations provide optimal returns.

Here are the variations of the Ichimoku component suggested by Anthony:

1. Tenkan Sen
2. Kijun Sen
3. Chikou Span
4. Kumo
5. Kijun Sen vs. Kumo
6. Chikou Span vs. Kumo
7. Tenkan Sen vs. Kijun Sen
8. Tenkan Sen vs. Kijun Sen vs. Kumo
9. Entire Component [10].

3 Results and Discussion

3.1 Tenkan Sen

The use of Tenkan Sen produces an average return of 1.15%, with 24 issuers generating capital gains and 11 issuers generating capital losses. The error rate (Mean Absolute Deviation) is 1.76%.

3.2 Kijun Sen

The use of Kijun Sen produces an average return of 3.79%, with 24 issuers generating capital gains and 11 issuers generating capital losses. The error rate (Mean Absolute Deviation) is 4.45%.

3.3 Chikou Span

The use of Chikou Span produces an average return of 6.70%, with 32 issuers generating capital gains and 3 issuers generating capital losses. The error rate (Mean Absolute Deviation) is 5.77%.

3.4 Kumo

The use of Kumo produces an average return of 7.14%, with 24 issuers generating capital gains and 11 issuers generating capital losses. The error rate (Mean Absolute Deviation) is 9.27%.

3.5 Tenkan Sen vs. Kijun Sen

The use of Tenkan Sen vs. Kijun Sen produces an average return of 2.81%, with 27 issuers generating capital gains and 8 issuers generating capital losses. The error rate (Mean Absolute Deviation) is 3.92%.

Table 1. Return of Each Variation

Variation	Average Return	Mean Absolute Deviation	The number of issuers that generate Capital Gain
Tenkan Sen	1.15%	1.76%	24
Kijun Sen	3.97%	4.45%	24
Chikou Span	6.70%	5.77%	32
Kumo	7.14%	9.27%	24
Tenkan Sen vs. Kijun Sen	2.81%	3.92%	27
Kijun Sen vs. Kumo	5.56%	7.45%	24
Chikou Span vs. Kumo	6.71%	8.93%	25
Tenkan Sen vs. Kijun Sen vs. Kumo	4.86%	7.09%	23
Entire Component	10.81%	23.36%	16

3.6 Kijun Sen vs. Kumo

The use of Kijun Sen vs. Kumo produces an average return of 5.56%, with 24 issuers generating capital gains and 1 issuer generating a capital loss. The error rate (Mean Absolute Deviation) is 7.45%.

3.7 Chikou Span vs. Kumo

The use of Chikou Span vs. Kumo produces an average return of 6.71%, with 25 issuers generating capital gains and 10 issuers generating capital losses. The error rate (Mean Absolute Deviation) is 8.93%.

3.8 Tenkan Sen vs. Kijun Sen vs. Kumo

The use of Tenkan Sen vs. Kijun Sen vs. Kumo produces an average return of 4.86%, with 23 issuers generating capital gains and 12 issuers generating capital losses. The error rate (Mean Absolute Deviation) is 7.09%.

3.9 Entire Component

The use of all components of Ichimoku Kinko Hyo produces an average return of 10.81%, with 16 issuers generating capital gains and 19 issuers generating capital losses. The error rate (Mean Absolute Deviation) is 23.36%.

From Table 1, it can be seen that each variation of the Ichimoku Kinko Hyo component gives a positive return. Furthermore, to measure the overall performance of each variation, an assessment was done using three categories: average return, Mean Absolute Deviation (MAD), and the number of issuers that generate capital gains. Because the

rating scales used in the three previous ratings are not the same, they must be equalized first.

From the discussion above, it is found that the Chikou Span is the variation that produces the most optimal return. Meanwhile, the use of all components of Ichimoku Kinko Hyo produces the least optimal return.

4 Conclusion

All variations of the Ichimoku Kinko Hyo components provide a positive return. Overall, the use of Chikou Span provides the most optimal return. Meanwhile, the use of all components of Ichimoku Kinko Hyo gives the least optimal return.

References

1. Widoatmodjo, S. (2015). *Pengetahuan Pasar Modal untuk Konteks Indonesia*. PT Elex Media Komputindo.
2. Fakhruddin, H. (2008). *Tanya Jawab Pasar Modal untuk SMA*. PT Elex Media Komputindo.
3. www.idx.co.id. *IDX*. Retrieved February 1, 2022, from IDX www.idx.co.id
4. May, E. (2018). *Smart Traders Not Gamblers*. PT Gramedia Pustaka Utama.
5. Ong, E. (2016). *Technical Analysis for Mega Profit*. PT Elex Media Komputindo.
6. Ahyad, A. (2016). *Smart Milenials – Generasi Milenial yang Cerdas*. KMPlus Consulting.
7. Hafidh, E. P. (2017). *Yuk Belajar Saham untuk Pemula*. PT. Elex Media Komputindo.
8. Wijaya, R. F. (2014). *Investasi Saham Ala Swing Trader Dunia*.
9. Peloille, K. (2017). *Trading With Ichimoku*. Harriman Hous LTD.
10. Anthony, L. (2019). *Profit Konsisten dengan Ichimoku Kinko Hyo*. Bhuana Ilmu Populer.
11. Patel, M. (2010). *Trading with Ichimoku Clouds*. Wiley.

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