

# Implementation of Lo Kheng Hong Investment Strategy to Build Optimal Stock Portfolio

Hendi Dwi Permana and Subiakto Sukarno

## ABSTRACT

The favorite investment choice of the Indonesian people, gold is in first place with a survey of 60.2%, and stock investment is ranked sixth with a value of 22.5%. Compared to Indonesia's total population, the number of individual investors has a relatively small percentage of 1.48% but continues to show significant growth yearly. Before entering the Indonesia Stock Exchange, every stock investor must have good knowledge and strategies to get optimal returns and risks. Lo Kheng Hong is an individual investor who has proven successful in the Indonesian stock exchange. The purpose of this research is to get an overview of the results of stock investment using the Lo Kheng Hong investment strategy on the Indonesian stock exchange. The method used to select stocks IDX is to use the PBV <0.5, PER <10, and Market Cap > 500 billion; after that, the top 4 stocks with the largest Total Annual Income were selected in 2012. The author uses the RTI Analysis Method (Read Think Analysis), which Lo Kheng Hong uses to verify that the stocks being screened are truly undervalued stocks with good fundamentals. Optimize portfolio and investment risk using the Excel Solver tool to obtain the composition of the stock weight with the best Sharpe Ratio. The author simulated purchasing shares within ten years using the buy hold, rebalancing method of buying shares every 1, 3, 6, and 12 months. Then, compare the Portfolio performance with the Composite Stock Price Index (IHSG). The results obtained from this study are the composition of the PTRO stock portfolio = 15.01%, INKP = 44.19%, SMDR = 35.90%, and TKIM = 5% by maximizing the Sharpe ratio of 0.2134. For the method of buying shares using the rebalancing method every year, it gets the best performance compared to the buy and holds or rebalancing plans for other periods, with a yield of 3400.61% and a Sharpe ratio of 0.1807. Portfolio performance using the Lo Kheng Hong investment strategy can exceed the Jakarta Composite Index (IHSG) performance within a 10-year investment period.

**Keywords:** Investment strategy, optimal portfolio, Sharpe ratio, stock selection.

**Submitted:** July 11, 2023

**Published:** September 2, 2023

**ISSN:** 2507-1076

**DOI:** 10.24018/ejbm.2023.8.5.2089

**H. D. Permana\***

School of Business Management, Institut Teknologi Bandung, Indonesia.  
(e-mail: hendi\_dwi@sbm-itb.ac.id)

**S. Sukarno**

School of Business Management, Institut Teknologi Bandung, Indonesia.  
(e-mail: subiakto@sbm-itb.ac.id)

\*Corresponding Author

recommendation for investors for using.

## I. INTRODUCTION

Gold is the first Indonesian people's favorite investment choice with a survey of 60.2%, and stock investment is ranked sixth with a value of 22.5% (Pahlevi, 2021). Compared to Indonesia's total population, the number of individual investors has a relatively small percentage of 1.48% but continues to show significant growth yearly (Indonesian Population and Civil Registry Service, 2022). Before entering the Indonesia Stock Exchange, every stock investor must have good knowledge and strategies to get optimal returns and risks. Lo Kheng Hong is an individual investor who has proven successful in the Indonesian stock exchange.

In 1998, Lo Kheng Hong had a stock portfolio worth 1.5 billion; in 2022, he had a portfolio of 2.142 trillion, so the Compound annual growth rate CAGR of Lo Kheng Hong's investment growth is 35.35% per year (Setia Atmaja, 2022).

From the Introduction, this research aims to know the results of using Lo Kheng Hong's investment Strategy, the investment results of rebalancing 1, 3, 6, and 12 months, and buy hold for the years investing period and the

TABLE I: LO KHENG HONG BASED ON THE CLOSING PRICE OF 28 OCTOBER 2022

Ticker	Number of shares	Stock price	Portfolio (IDR)
PTRO	151,480,600	2910	440,808,546,000
BMTR	1,058,274,000	302	319,598,748,000
DILD	651,416,700	188	122,466,339,600
GJTL	180,000,100	630	113,400,063,000
ADMG	55,500,200	161	8,935,532,200
CFIN	203,944,700	412	84,025,216,400
PNLF	1,038,955,800	665	690,905,607,000
ABMM	85,547,100	4240	362,719,704,000
Total			2,142,859,756,200

## II. LITERATURE REVIEW

### A. Problem Exploration

The problem explored in this study is comparing low-stock investors to the total population and finding out the investment strategy needed to build an optimal stock portfolio and grow the Indonesian stock.

## B. Conceptual Framework

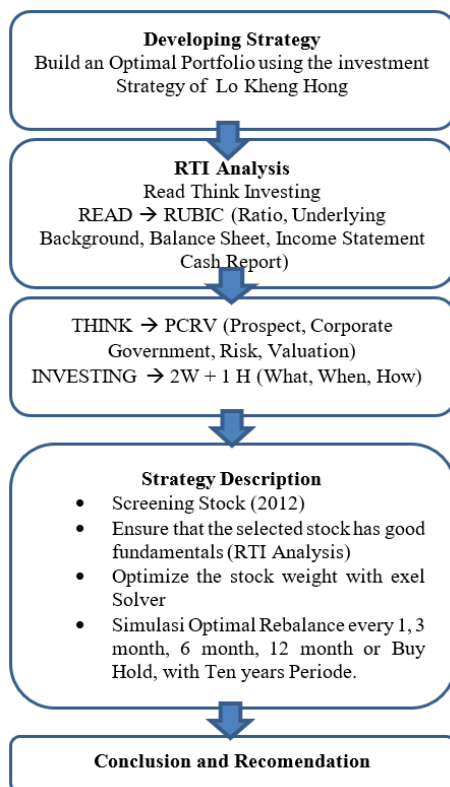


Fig. 1. Conceptual model.

## C. The Efficient Market Hypothesis

Fama (1970) argues that financial markets are highly efficient, and prices reflect all publicly available information at any given time. The Efficient Market Hypothesis (EMH) is a central concept in modern finance theory. The theory states that financial markets are highly efficient, meaning that it is impossible to consistently achieve abnormal returns by using publicly available information. Lo Kheng Hong disagrees with the Efficient Market Theory because if the market is efficient, there will be No Merci shares with Avanza or Bajai prices (Setia Atmaja, 2022).

## D. Lo Kheng Hong Investing Principle

Lo Kheng Hong's principle is to buy shares of Merci with Avanza prices or Bajai prices, in line with Warren Buffet's and Benjamin Graham's investment Principles (Setia Atmaja, 2022). In some classic works, including The Intelligent Investor, Graham introduced some of history's most profound investment wisdom. It rejects a prevalent but mistaken mindset that equates price with value. On the contrary, Graham held that price is what you pay and value is what you get (Cunningham, 1997, p. 15).

## E. Price Earning Ratio (PER)

Price Earning Ratio (PER) is one of the valuation ratio metrics often used by investors to evaluate the value of a company's shares.

This ratio compares a company's stock price to earnings per share (EPS). For example, if a Stock has a cost of Rp. 1,000 and earnings per share of Rp. 100, then the Price Earning Ratio is 10. This number indicates that investors are willing to pay Rp. 10 for every Rp. 1 in profit that the

company generates.

$$PER = \text{Share Price} / \text{Earnings per Share (EPS)}$$

PER Ratio determines whether a stock is undervalued or overvalued. If the PER of a stock is lower than the average PER of the industry, then the stock is considered undervalued. Conversely, if the PER of a stock is higher than the average PER of the industry or market, the stock is overvalued. Lukas (2022), a Company with a PER of less than 5 or 10 (PER <5 or <10) is considered undervalued.

## F. Price to Book Ratio (PBV)

Price to Book Value (PBV) is one of the valuation ratios in stock analysis that helps investors assess the value of a stock based on the company's book value.

$$PBV = \text{Share Price} / \text{Book Value per Share}$$

PBV can be used to determine whether a stock is undervalued or overvalued. According to Lukas (2022), PBV value < 1 is an undervalued share price, especially if the share price < 0,5.

## G. Margin of Safety (MOS)

Graham (1949) defines the Margin of Safety as one of the core principles of making intelligent investors and sees it as a way to manage risk wisely. The Margin of Safety, introduced initially by Benjamin Graham, represents the variance between the market price and the intrinsic value of a stock. Its calculation serves the purpose of enabling investors to mitigate investment risk and safeguard their portfolios.

## III. RESEARCH METHODOLOGY

This research uses a quantitative method and a stock screener of value investing using the PBV < 0.5 ratios, PER < 10, with a market cap of > 500 billion. After that, it chooses four stocks with the highest revenue for 2012, and verifies the stock with the RTI method (Read Think and Investing) to ensure that the selected company has good fundamentals and prospects. The second stage uses the Excel Solver to get the optimal stock weight by considering the risk with the maximum Sharpe ratio. The third stage simulates a portfolio using the rebalancing method every month, three months, six months, 12 months, or Buy Hold, with a ten-year period, which will determine which investment period produces optimal returns in this investment strategy and the maximum Sharpe ratio.

## IV. RESULTS AND DISCUSSION

### A. Screening Stock Portfolio

The first screening is for stocks with a PBV < 0.5. From 800 stocks in IDX, the results of this screening are 46 stocks (Kurniawan, 2022). The second screening stage was stocks with a PER value of < 10. The results of this screening are 23 stocks. The third stage was screening for shares with a market capitation of > 500 billion; the screening results were nine stocks, and in the fourth stage, the author chose four stocks

with the highest revenue. The screening data is presented in Table II.

TABLE II: SCREENING STOCKS IN 2012

No	EMITEN	Name	Sector	PER	PBV	Marketcap (IDR bio)	Revenue (IDR bio)
1	PTRO	Petrosea Tbk.	Oil,Gas & Coal Equipment & Services	2.76	0.50	3,349	3,728
2	INKP	Indah Kiat Pulp & Paper Tbk.	Pulp & Paper	7.64	0.18	6,729	24,350
3	TKIM	Pabrik Kertas Tjiwi Kimia Tbk.	Pulp & Paper	7.86	0.35	2,838	12,780
4	SMDR	Samudera Indonesia Tbk.	Logistics & Deliveries	9.21	0.35	606	5,938

B. Read Think Investing Analysis (Read)

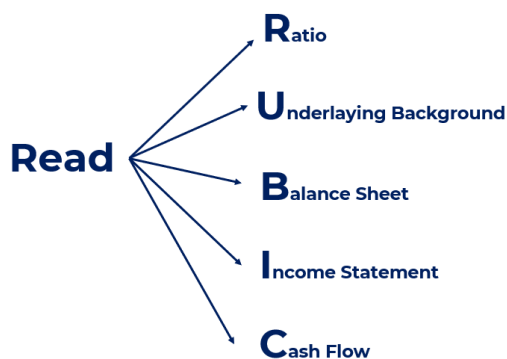


Fig. 2. The Read model.

Ratio using Return of Equity ROE, which ROE PTRO = 26,64 %; INKP = 2,39 %; TKIM = 4,5 % and SMDR = 3,77%. A positive ROE shows that stocks can generate profits.

PT Petrosea Tbk is a multi-disciplinary mining, infrastructure, oil, and gas. A service company with a track record of achievements in Indonesia since 1972. They offer a competitive advantage by providing complete pit-to-port mining solutions, integrated engineering, procurement, and construction capabilities, logistical support, commitment to safety, health and environment, quality management, and business integrity.

PT Indah Kiat Tbk produces pulp, industrial paper, cultural paper, and tissue. INKP processes wood into pulp and paper and wastepaper into industrial form. INKP has a production capacity of 3.0 million tonnes of pulp, 1.7 million tonnes of cultural formation, 108 thousand tonnes of tissue, and 2.1 million tonnes of packaging in 2019, with production facilities in Serang, Tangerang Banten, and Riau. Production results are exported to Asian countries, Europe, the United States, the Middle East, Africa, and Australia, as much as 52%, and the rest is for domestic needs.

PT. Tjiwi Kimia Tbk Paper Factory produces copy paper, coated and carbonless. TKIM also has various types of stationery and office supplies such as notebooks, memos, notepads, loose leaves, spirals, envelopes, computer paper, gift paper, shopping bags, and fancy products in demand by the international market. TKIM’s production capacity for cultural paper is 1,180,000 tons annually, and industrial paper is 714,000 tons annually.

Samudera Indonesia is a shipping and logistics company that has global-level connections and has a logistics solution global shipping business ecosystem which includes shipping (Container et al., Crew Management, and Agencies), Port Services, Logistics, Samudera Shipyard (offers ship repair and maintenance, also a new building construction and

fabrication of marine and industrial components), Samudera Property.

Balance Sheet, PTRO, INKP, TKIM, SMDR, Assets, Liabilities, and Equities show growth yearly from 2008, indicating that the company continues to grow (Stockbit, 2023). Verifying the Cash Flow Report regarding the company’s ability to manage its debts is necessary.

Income Statement PTRO, INKP, TKIM, and SMDR, revenue continues to grow, and company profits from 2008 to 2012 are positive (Stockbit, 2023). Still, there have been several years when the company experienced losses.

Cash Flow PTRO, INKP, TKIM, and SMDR Cash from operations is positive and continues to grow, indicating that the company can print money from its operations (Stockbit, 2023). Cash from investing is negative. The company is investing in developing its business. Cash From Financing is negative; the company can pay debts from its cash flow. There have been several years where the company’s positive financial money has received additional debt.

C. Read Think Investing Analysis (Think)

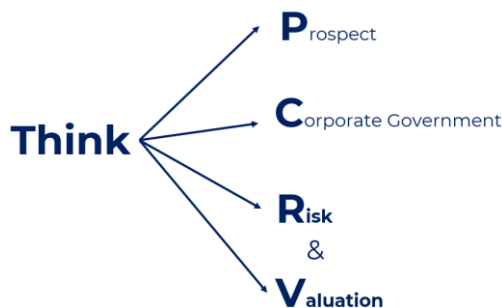


Fig. 3. The Think model.

Prospect, PTRO The need for Energy Sources other than oil and gas makes coal still very potential as an energy source. So, according to the author, PTRO can still grow and develop for long-term investments if purchased at a low price.

INKP & TKIM, Government support for this industry is quite large through the Ministry of Industry and Trade, one of which is the proposed support for fixing gas prices for this industrial sector. The author assesses the prospect of domestic raw material support and opportunities for the pulp and paper industry.

SMDR The prospects for the logistics business will continue to grow because shipping, transportation, and logistics will continue to be needed for an extended time, so SMDR has a promising future. SMDR entered the Indonesian Stock Exchange in 1999.

Corporate governance is the heart of investment decisions. Investors put corporate governance on par with financials when evaluating investment decisions (Global Investor

Survey, 2022). The author analyses through the annual report on PTRO, INKP, TKIM, and SMDR that the four stocks have good corporate governance. Search engine search results do not find that the four stocks have legal problems or are currently facing legal issues. Lukas (2022). A well-managed company has a positive profit. Companies that can generate cash from their operational activities and have grown in revenue can be said to have good corporate governance.

**D. Read Think Investing Analysis (Think)**

After doing the Read and Think Analysis, the next step is investing; the authors use the 2 W + 1 H approach, where the first W is “What,” what stocks will pick for investment? The shares invested are shares of PTRO, IKNP, TKIM, and SMDR. The second W is “When” when to enter the investment? Screening was done in 2012, so the author will start investing at the end of December 2012. “How,” how to do it? Optimize the portfolio using the Excel Solver to get the optimal stock weight by considering the risk with the maximum Sharpe ratio. After that, the author will simulate a portfolio using the rebalancing method every month, three months, six months, 12 months, or Buy Hold, with a ten-year Period, which will determine which investment period produces optimal returns in this investment strategy.

**E. Optimize the Portfolio Weight Stocks with Excel Solver**

Using an Excel solver to get the optimal stock weight by

considering the risk with the maximum Sharpe ratio to make an optimal portfolio. Sharpe ratio illustrates how well the resulting return on investment is compared to the level of risk taken (Sharpe, 1994). With the following formula:

$$Sharpe\ Ratio = \frac{R_p - R_f}{\delta_p}$$

Where:

- R<sub>p</sub> = Return of portfolio
- R<sub>f</sub> = Risk-free rate
- δ<sub>p</sub> = Standard deviation of the portfolio’s excess return.

Using the Risk-Free Rate is Indonesia Government Bond = 6.25%, with a minimum stock weight to be invested of 5%; using the Excel Solver Method, we obtain PTRO Stock Weight = 15.01%, INKP = 44.19%, SMDR = 35.80% and TKIM = 5.00%, with a maximum Sharpe ratio of 0.134.

**F. Optimize Return and Risk for the Portfolio**

The simulation was carried out by buying and holding for ten years, using the portfolio rebalancing method with a simulation period of 1 month, three months, six months, and 12 months. with an initial investment value of Rp. 100,000,000, -, then the results of the portfolio are compared with the Composite Stock Price Index (IHSG) with the following results:

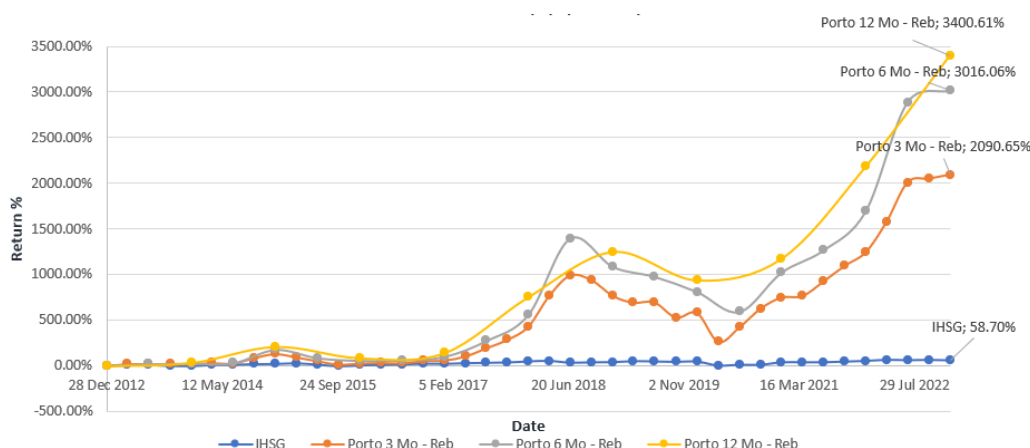


Fig. 4. Portfolio results and Sharpe ratio in 10 years investment.

TABLE III: PORTFOLIO RESULTS AND SHARPE RATIO IN 10 YEARS INVESTMENT

Simulation	Rebalance	Portfolio (IDR)				Sharpe Ratio	
		Initial Value	Final Value	Return	CAGR	Portfolio	
Buy Hold	until 10 Years	100,000,000	982,847,136	882.85%	25.67%	0.0959	
Buy Rebalance	1 month	100,000,000	1,931,984,800	1831.98%	34.46%	0.1561	
Buy Rebalance	3 month	100,000,000	2,190,647,326	2090.65%	36.16%	0.1621	
Buy Rebalance	6 month	100,000,000	3,116,058,411	3016.06%	41.05%	0.1782	
Buy Rebalance	12 month	100,000,000	3,500,605,113	3400.61%	42.70%	0.1807	

TABLE IV: IHSG RESULTS AND SHARPE RATIO IN 10 YEARS INVESTMENT

Simulation	Rebalance	IHSG				Sharpe Ratio	
		Initial Value	Final Value	Return	CAGR	IHSG	
Buy Hold	until 10 Years	100,000,000	158,700,854	58.70%	4.73%	-0.035	
Buy Rebalance	1 month	100,000,000	158,700,854	58.70%	4.73%	-0.035	
Buy Rebalance	3 month	100,000,000	1158,700,854	58.70%	4.73%	-0.035	
Buy Rebalance	6 month	100,000,000	58,700,854	58.70%	4.73%	-0.035	
Buy Rebalance	12 month	100,000,000	158,700,854	58.70%	4.73%	-0.035	



From the simulation results in Tables III and IV, the portfolio has a return that exceeds the Jakarta Composite Index (IHSG) over a 10-year investment period. From the Sharpe Ratio, the investment portfolio of the four stocks has a value greater than the value of the Sharpe ratio of the Composite Stock Price Index (IHSG). Fig. 4 shows that the Portfolio return rate is better than the Composite Stock Price Index (IHSG). In the portfolio, the method of buying shares by implementing rebalancing once every year has yields and Sharpe ratio values that are greater than the hold method and the rebalancing method with a rebalancing frequency of 1, 3, and 6 months, with a ten-year yield rate of 3400% and the value of the Sharpe Ratio at 0.1807. The value of this Sharpe ratio means that every 1% of the risk in the portfolio has an excess rate of return of 0.1807 per month.

## V. CONCLUSION

1. The result of implementing the Lo Kheng Hong investment strategy is that the author gets four stocks consisting of PT. Petrosea TBK (PTRO), PT. Indah Kiat Pulp and Paper Tbk (INKP), PT. Pabrik Kertas Tjiwi Kimia Tbk (TKIM) and PT. Samudera Indonesia Tbk (SMDR).
2. Optimizing portfolio using Excel Solver, with the Risk-Free Rate Indonesia Government Bond = 6.25%, a minimum stock weight invested is 5%; we obtained Stock Weight PTRO = 15.01%, INKP = 44.19%, SMDR = 35.80% and TKIM = 5.00%, with a maximum Sharpe ratio of 0.2134.
3. Buying stocks by rebalancing yearly gives the best return among other buying methods, exceeding the yield on the Composite Stock Price Index (IHSG) with a yield rate of 3400% and a Sharpe ratio value of 0.1807 over a ten-year investment period.

## REFERENCES

- Cunningham, L. A. (1997). *The essays of Warren Buffett: Lessons for corporate America*. Carolina Academic Press.
- Fama, E. (1970). Efficient capital market: A review of theory and empirical work. *Journal of Finance*, 25(2), 383-417.
- Global Investor Survey (2022) Governance is increasingly at the heart of investment decisions. McKinsey Survey.
- Graham, B. (1949). *The intelligent investor: The definitive book on value investing*. HarperBusiness.
- Indonesian Population and Civil Registry Service. (2022, June). *Dukcapil kemendagri rilis data penduduk semester i tahun 2022, naik 0,54% dalam waktu 6 bulan* [Dukcapil Ministry of Home Affairs releases population data for the first half of 2022, up 0.54% in 6 months]. <https://dukcapil.kemendagri.go.id/berita/baca/1396/dukcapil-kemendagri-rilis-data-penduduk-semester-i-tahun-2022>.
- Kurniawan, R. (2022). *Stock screener database*. Retrieved from [www.rivankurniawan.com](http://www.rivankurniawan.com).
- Pahlevi, R. (2021, December). *Emas jadi pilihan investasi favorit di Indonesia* [Gold becomes favorite investment choice in Indonesia]. Retrieved from <https://databoks.katadata.co.id/datapublish/2021/12/06/emas-jadi-pilihan-investasi-favorit-di-indonesia>.
- Setia Atmaja, L. (2022). *Lo Kheng Hong: The poor man who became a trillionaire on the Indonesian stock exchange*. Hungry Stock Publisher.
- Sharpe, W. F. (1994). The Sharpe ratio. *The Journal of Portfolio Management*, 21(1), 49-58.
- Stockbit. (2023). *Database for financial report*. Retrieved from [www.stockbit.com](http://www.stockbit.com).