

Value Investing in Thailand: The Test of Basic Screening Rules

Paiboon Sareewiwatthana*

To date, value investing has been recognized around the world. There are numerous researches on testing the value investing screening rules, namely low earnings ratio, low price to book value, and high dividend yield. So far, there have been very few of such research on emerging markets in Thailand. This study employed the three basic screening rules to select stocks and to test if value could be added to the investment portfolio in the Securities Exchange of Thailand. The test period covered 15 years, from January 1996 to December 2010. It was found that the formed portfolios significantly outperformed the market. Furthermore, the empirical results indicated that portfolio of value stocks outperformed that of growth stocks. When another set of screening rules modified from the Magic Formula suggested by Joel Greenblatt was used to test the performance of stocks, the results indicate that the formed portfolios significantly beat the Thai market during the period tested.

JEL Codes: G11 and G14

1. Introduction

Value investing was initiated by Benjamin Graham. Having burgeoned over the years, the concept has seminally become a cannonball following Warren Buffett's phenomenal success. Investors across the globe have turned to value investing with expectation of long-term return. The approach virtually engages investors in the running of their chosen ventures. Investors keep their eyes on stocks in corporations with high level of profitability and will buy them when their market prices fall below the intrinsic values. Meanwhile value investing (VI) is widely embraced and has manifested its success under various investment big names, many practitioners and scholars remain skeptic about its actual, systematic practicality. The question on the spot is whether investors who attribute their success to the VI have actually succeeded through straightforward application of the approach, or whether because, in fact, they have employed their own personal judgment.

Academic researches have been conducted to test the practicality of value investing. Most of the researches were done in countries with advanced stock markets. One of the research approaches is using simple screening rules. This can be adopted by general investors. The basic criteria usually comprise accounting figures and historical trading e.g. Price to Book Value, Price Earnings ratio, Price to Cash Flow ratio, Dividend Yield, Return on Equity, Return on Assets, Return on Capital. The test can be strengthened with aids of quantitative and qualitative data (e.g. historical growth rate, expected growth rate, analyses' recommendation) as

*Associate Professor, School of Business, National Institute of Development Administration, Bangkok, Thailand. Email: Paiboon43@hotmail.com

The author would like to thank Tanapat Chatsatien for his support in collecting data and testing the hypotheses, and thank Kanchit Paisarn for his data collection.

Sareewiwatthana

well as other sorts of data which require further calculation, such as financial ratios. A venture's type of business and its governance level should also be taken into consideration.

Most of the researches done in developed countries have shown that value investing apparently produces above average returns. Such output undermines the Efficient Market—a concept maintaining that money and stock markets are so powerful that there is no analytical technique or stock-selecting method which could cause abnormal return on investment or consistently beat the market.¹

This research aims to discover whether, in such an emerging market as Thailand, value investing is capable of producing above average returns in a long run. In addition, results from value investing strategy are compared to that of growth investing strategy to see if value premium existed in the Thai market. The research is carried out largely with the use of basic screen rules, which can be easily adopted by general investors. It is conducted based on the prospect's financial data available to the public. Stocks are selected through the screening rules, the approach widely used by value and growth investors. Studies of this fashion have been conducted at stock markets in various countries. Their outputs have shown that value investing is effective and produces above average returns. This report proceeds as follow. In the next section, previous related literatures are reviewed and summarized. Then the research methodology and data used are discussed. Empirical results found in the study are then presented and analyzed. Lastly, conclusion, implications, and limitations together with suggestion for further study are discussed.

2. Literature Review

Graham (1934) introduced value investing and along with it a set of criteria for selecting undervalued stocks. Graham contended that stocks which passed those criteria were worth the investment as they would produce above average returns. Basu (1977) studied on the subject and discovered that stocks with low Price/Earnings ratio (P/E) had tendency to produce more return than stocks with higher P/E. Oppenheimer (1984) conducted a research on portfolios created according to Graham's criteria. The research, conducted from 1974 to 1981, showed that their returns satisfactorily exceeded the market.

Chan, Hamao and Lakonishok (1991) conducted a research in Japan, using Book to Market, Earnings to Price, and Cash Flow to Price ratios. They concluded that these three approaches had potential to produce above average returns. Fama and French (1992) examined the return from portfolios with low Book Value to Market Price in comparison to the return from portfolios with high Book Value to Market Price. They discovered that value investing portfolios produced above average returns, but suggested that the return discrepancy might be the result of the different levels of risk. Lakonishok, Shleifer and Vishny (1994) conducted a research and showed that return discrepancy was not caused by different levels of risk, but by agency costs and investor behaviors. Fama and French (1998) employed various value investing approaches in their examination of stock return in different countries. They discovered that, in almost every country, value stocks produce more average returns than growth stocks which were categorized to be at similar risk levels through the Standard Deviation assessment. Findings of such

Sareewiwatthana

fashion also prevailed in some emerging markets. Chan, Karceski and Lakonishok (2004) conducted a research and concluded that value investing produced above average returns because Book Value/ Market Value was a measure of a company's future growth opportunities relative to its accounting value. Accordingly, low BV/MV suggested that investors expected high future growth prospects.

Piotroski (2000) conducted a research on selecting value stocks based on their past financial statements. He discovered that stocks which pass the nine criteria apparently produced above average returns. Greenblatt (2006) in his book "The Little Book That Beats the Market" reported that a simple stock selection rules based on return on capital (ROC) and the EBIT to Enterprise Value (BV/MV) produced above average returns.² Larkin (2009) found that several value investing strategies performed well and produced abnormal returns even after anomalies or risk factors that drive them have been known for some time.

In Thailand, Hemwachirawarakorn and Intara (2008) conducted a research on value investing in Thailand from 2003 to 2007. Their research discovered that value investing produced considerably higher returns than average.³

3. Data and Methodology

According to the value investing principle, stocks of which the intrinsic value far exceeds their prices are worth the investment. There are indicators which show that certain stocks have intrinsic value that exceeds their prices:

- Price to Book Value (P/B) shows a ratio of stock price to book value. The lower the ratio, the better the stock in term of its intrinsic value compared to its market price.
- Price/Earnings per Share ratio (P/E) shows stock price to earnings per share. This demonstrates a prospective stock's intrinsic value. The lower the P/E, the more its intrinsic value exceeds its price. The reverse of a Price/Earnings ratio is an Earnings/Price ratio, the earning yield indicator.
P/E is considered to be an indicator used to separate value from growth stocks. Utilizing P/E, value stocks are those with low P/E number. On the other hand, growth stocks are those with high P/E.
- Dividend Yield (DY) shows how much a company pays out in dividends compared to its market price. To calculate the dividend yield, divide the annual dividend by the current stock price. The annual dividend may be paid in cash or in other forms e.g. stock dividend. Dividend yield indicates rate of return on long-term investment. A high dividend yield indicates high return on long-term investment.
- Return on Equity (ROE) is the amount of net income returned as a percentage of shareholders equity. To calculate the ROE, divide the net income by shareholder's equity. ROE largely measures a corporation's profitability. The higher the ROE, the more profitable a corporation is.

Sareewiwatthana

This research draws stock prices and financial statement figures from the Stock Exchange of Thailand's website. The data is drawn from January 1996 to December 2010, a total period of 15 years.

Method 1 – Select prospective stocks using these three screening rules: P/B, P/E and dividend yield. Selected stocks must pass these criteria⁴:

- P/E below 10
- P/B below 1
- Dividend yield above 3%

- 1.1 In the beginning of each year, from 1996 to 2010, build a portfolio with stocks that pass the three criteria above. Invest evenly in each stock. Calculate the portfolio's return at the year-end. Renew the process, creating a new portfolio with new stocks in the beginning of the next year. Compare the portfolio's returns to the market average.
- 1.2 Out of the qualified stocks, select 30 with the lowest P/B rankings. In the beginning of each year from 1996 to 2010, build a portfolio with evenly-invested stocks. Calculate portfolio return at each year-end. Renew the process, creating a new portfolio with new stocks in the beginning of the next year. Compare the portfolio's returns to the returns on investment in all of the stocks which pass those three criteria. Also compare the former to the market average.
- 1.3 Out of the qualified stocks from 1.1, rank stocks according to their P/E ratios. Then form two portfolios. The value portfolio consists of all stocks above the 30 percentile of the qualified stocks with the lowest P/E ratios, while the growth portfolio consists of stocks above the 30 percentile of the highest P/E ratios.

Method 2 – In “The Little Book That Beats the Market” Joel Greenblatt suggests long-term investment in promising corporations at low prices. Screen stocks based on their earnings yield and return on capital (called “The Magic Formula”).

This research applies Greenblatt's modification method as below:

- 2.1 Rank stocks from low to high P/E. Assign score to each ranking. P/E should measure earnings yield.
- 2.2 Rank stocks from high to low ROE. Assign score to each ranking. ROE as a proxy for return on capital should measure company's profitability.
- 2.3 For each stock, combine its scores from the P/E and ROE rankings. Pick 30 stocks with the lowest scores of the year for investment.
- 2.4 In the beginning of each year starting from 1996, create a portfolio with 30 stocks qualified as in 2.3. Invest evenly in each stock. Calculate returns at the year-end. Renew the process, creating a new portfolio with 30 new stocks in the beginning of the next year. Compare the portfolio's returns to the market average.

Sareewiwatthana

4. Empirical Results

These are the findings from the research using stock and company data from the Stock Exchange of Thailand.

1. **Results from Method 1**— Select stocks with P/B below 1, P/E below 10, and dividend yield above 3%.

1.1 Investing evenly in every qualified stock—the result is shown in Table 1.

Table 1
Portfolio's returns compared to the market average

Year	Portfolio Return	SET Total Return	Difference	t-value
1996	2.28%	-31.57%	33.86%	5.9023*
1997	-17.25%	-49.14%	31.89%	3.8316*
1998	35.77%	-3.19%	38.96%	3.5139*
1999	59.97%	36.05%	23.92%	2.5745*
2000	39.32%	-42.36%	81.68%	7.5672*
2001	69.23%	14.94%	54.29%	9.0323*
2002	66.01%	20.04%	45.97%	3.2335*
2003	99.46%	118.48%	-19.02%	-1.4074
2004	32.94%	-10.73%	43.67%	3.1718*
2005	5.13%	10.21%	-5.08%	-1.4516
2006	63.78%	-0.51%	64.29%	1.6845*
2007	19.57%	29.53%	-9.96%	-2.0463
2008	-15.67%	-40.99%	25.33%	7.9761*
2009	90.06%	66.90%	23.17%	3.4264*
2010	72.65%	43.52%	29.13%	2.2472*
Geometric Mean	36.69%	2.40%	34.29%	

*significant at the 95% level

Table 1 shows that selecting stocks and investing in regard to value investing produces above market average returns in 12 out of 15 years (1996 - 2010). In all of those 12 years, the differences are statistically significant at the 95% level. Moreover, value investing produced an annual return of 36.69% over 15 years, as opposed to the market average annual return of 2.4%.

Below, Figure 1 compares the portfolio's 15-year value added to the market average value added.

Sareewiwatthana

Figure 1
Portfolio values comparison

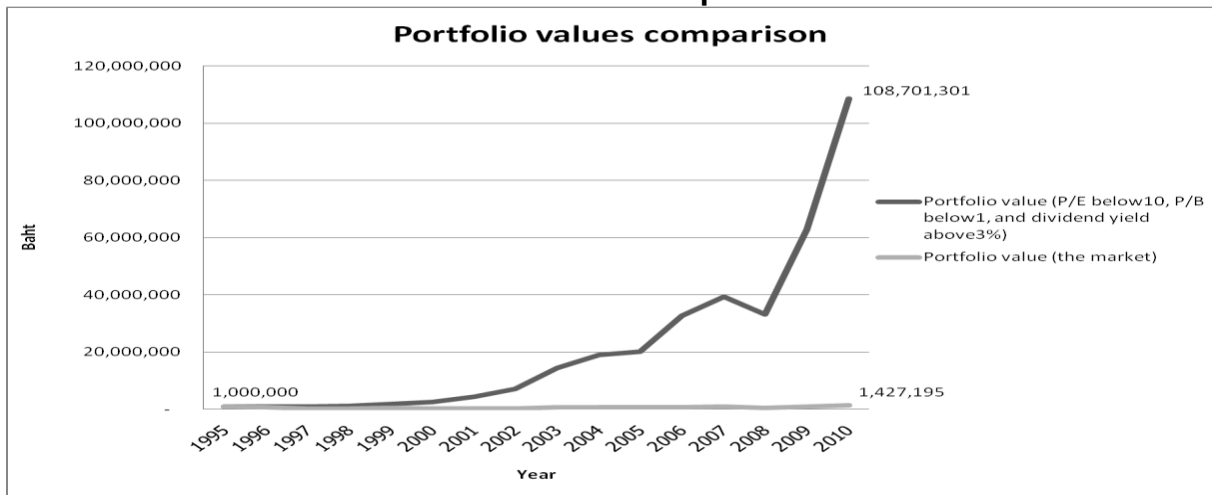


Figure 1 demonstrates how value investing contributed to the value added. Selected stocks had P/B below 1, P/E below 10 and dividend yield above 3%. Through this method, the investment value increased by 108.7 times over 15 years (1996 - 2010). In the meantime, the market average investment value only increased by 1.4 times.

1.2 Selecting 30 stocks with the lowest P/B rankings, out of all stocks that have P/B below 1, P/E below 10 and dividend above 3%—the result is shown in table 2.

Table 2
Returns from the portfolio of 30 stocks compared to returns from the market

Year	Portfolio Return	SET Total Return	Difference	t-value
1996	0.93%	-31.57%	32.51%	5.0357*
1997	-17.07%	-49.14%	32.07%	2.4312*
1998	33.53%	-3.19%	36.72%	3.2261*
1999	85.84%	36.05%	49.79%	3.3229*
2000	52.04%	-42.36%	94.40%	4.3636*
2001	81.77%	14.94%	66.83%	6.7119*
2002	97.73%	20.04%	77.69%	2.0809*
2003	86.60%	118.48%	-31.88%	-1.4823
2004	32.57%	-10.73%	43.29%	2.9331*
2005	3.19%	10.21%	-7.02%	-1.6773
2006	121.36%	-0.51%	121.87%	1.3060
2007	16.35%	29.53%	-13.18%	-1.8074
2008	-16.07%	-40.99%	24.93%	5.0518*
2009	135.10%	66.90%	68.20%	3.3950*
2010	57.82%	43.52%	14.31%	1.7855*
Geometric Mean	43.80%	2.40%	41.40%	

*significant at the 95% level

Sareewiwatthana

Table 2 demonstrates that, from 1996 to 2010, investing in 30 stocks with the lowest P/B rankings screened through two value investing tools, P/E and dividend yield, produced above average returns in 12 out of 15 years. In those 15 years, 11 out of 15 of the differences in returns were statistically significant. In term of annual return, over 15 years, investment in the portfolio with 30 stocks produced a 43.8% return while investment in all of the qualified stocks yielded a 36.69% return. Investment in the market showed a 2.4% annual return.

Figure 2
Portfolio values comparison

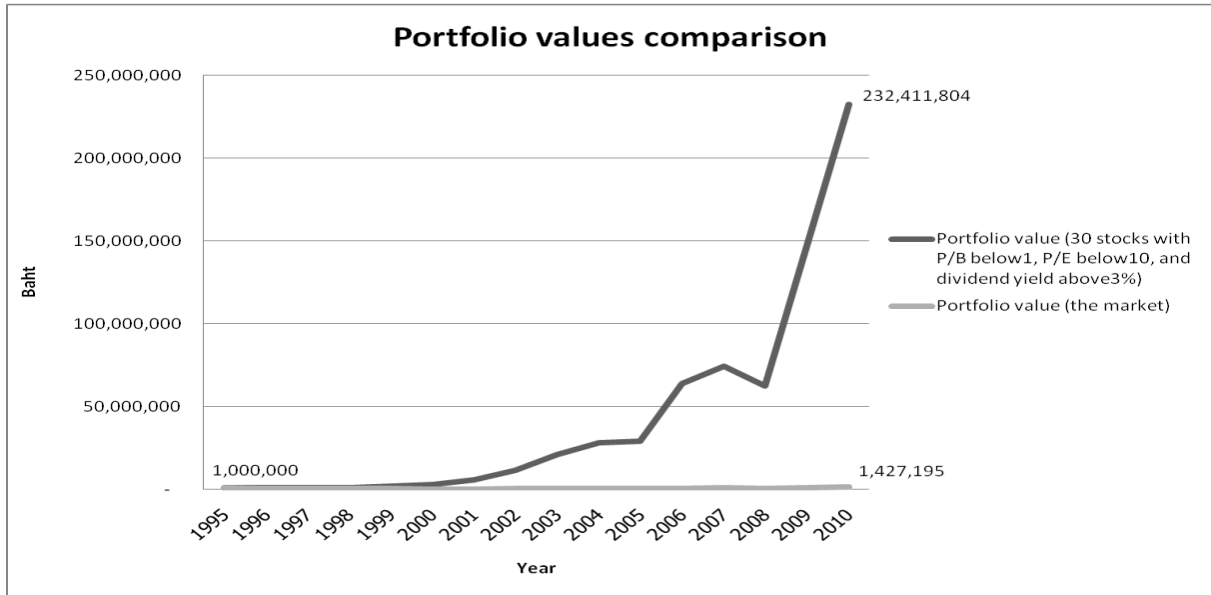


Figure 2 demonstrates how value investing contributes to growth of the value added. Primarily selected stocks have P/B below 1, P/E below 10 and dividend yield higher than 3%. The final picks are 30 stocks with the lowest P/B rankings. The result shows that the 30-stock investment value increased by 232 times over 15 years (1996 - 2010). In case of investing in all of the stocks which pass the criteria, the investment value grew by 108 times. For investing in SET, the investment value only increased by 1.4 times.

1.3 Forming value and growth portfolios according to the stocks P/E ratios. The value portfolio consisted of all the stocks above the 30 percentile of the qualified stocks with the lowest P/E ratios, while the growth stock consisted of stocks above the 30 percentile of the highest P/E ratios. The result is shown in Table 3.

Sareewiwatthana

Table 3
Returns from the value compared to growth portfolios

Year	Portfolio Return (Value)	Portfolio Return (Growth)	Difference	t-value
1996	8.23%	-14.79%	23.02%	1.8261*
1997	6.53%	-28.26%	34.79%	1.5676
1998	68.65%	24.71%	43.94%	1.5507
1999	80.30%	42.84%	37.45%	1.5755
2000	86.62%	11.22%	75.40%	2.5835*
2001	66.07%	61.72%	4.35%	0.3017
2002	78.19%	60.19%	18.00%	0.4356
2003	143.95%	71.83%	72.12%	2.0749*
2004	68.20%	6.71%	61.50%	1.6750
2005	4.48%	4.55%	-0.07%	-0.0083
2006	143.07%	29.26%	113.80%	1.0110
2007	15.43%	21.01%	-5.58%	-0.4571
2008	-18.13%	-11.23%	-6.91%	-0.8940
2009	129.27%	56.32%	72.95%	4.4029*
2010	103.09%%	38.93%	64.15%	1.9830*
Geometric Mean	57.24%	21.31%	35.92%	

*significant at the 95% level

Table 3 demonstrates that, from 1996 to 2010, investing in the value portfolio produced value premium over the growth portfolio. In term of annual return, over 15 years, investment in the value portfolio produced a return of 57.24% while investment in the growth portfolio yielded a 21.31% return.

Figure 3
Portfolio values comparison (Value portfolio vs growth portfolio)

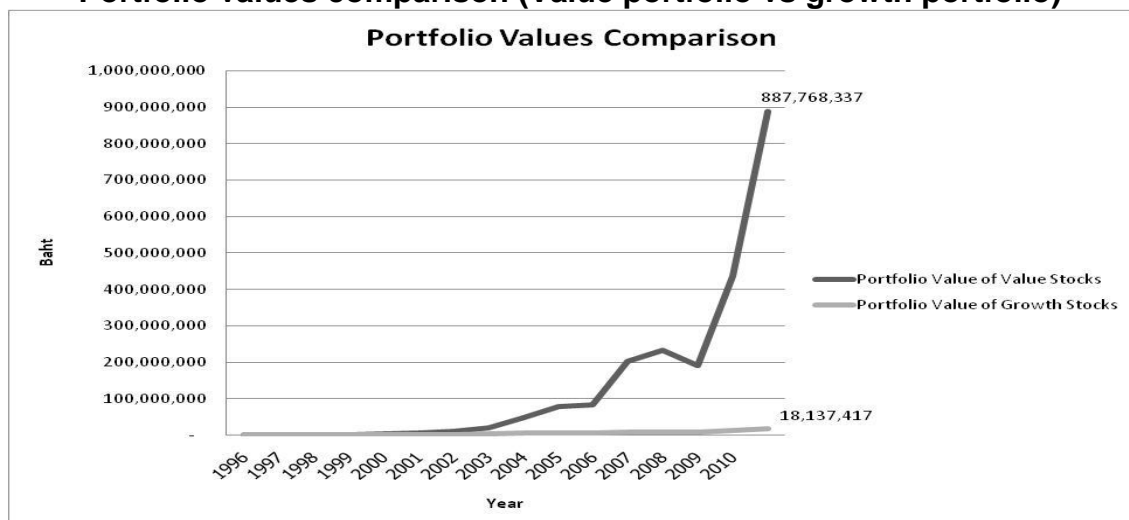


Figure 3 shows how the value and growth portfolios contributed to the value added. The value portfolio grew by 887 times over 15 years (1996 - 2010) while

Sareewiwatthana

the growth portfolio grew 18 times. Investing in SET, the investment value only increased by 1.4 times.

2. **Results from Method 2**—Apply Joel Greenblatt’s modification method, investing in 30 stocks qualified by the rankings of lowest P/E and highest ROE. Below, Table 4 compares the portfolio’s returns to the average returns.

Table 4
Returns from portfolio of 30 stocks with the lowest ranking
of low P/E and high ROE

Year	Port. Return	SET Total Return	Difference	t-value
1996	11.84%	-31.57%	43.41%	5.2546*
1997	20.72%	-49.14%	69.86%	3.4196*
1998	29.28%	-3.19%	32.47%	2.8521*
1999	107.25%	36.05%	71.20%	2.7886*
2000	68.13%	-42.36%	110.49%	4.9092*
2001	81.14%	14.94%	66.20%	3.0963*
2002	149.49%	20.04%	129.45%	2.3032*
2003	426.55%	118.48%	308.07%	2.7399*
2004	20.06%	-10.73%	30.79%	1.8566*
2005	11.69%	10.21%	1.48%	0.1783
2006	194.53%	-0.51%	195.04%	1.7906*
2007	14.87%	29.53%	-14.66%	-1.8621
2008	-25.87%	-40.99%	15.12%	1.7967*
2009	109.34%	66.90%	42.44%	2.2129*
2010	99.76%	43.52%	56.24%	2.1860*
Geometric Mean	66.18%	2.40%	63.78%	

*significant at the 95% level

Table 4 demonstrates that investment in selecting stocks according to Joel Greenblatt’s value investing method produced above average returns in 14 out of 15 years (1996 - 2010). And 13 out of these 15 differences were statistically significant. Over 15 years, this value investing method produced a 66.18% annual return, while the market average yielded a 2.4% return.

Below, Figure 4 compares the portfolio’s value added to the market average value added.

Sareewiwatthana

Figure 4
Portfolio values comparison

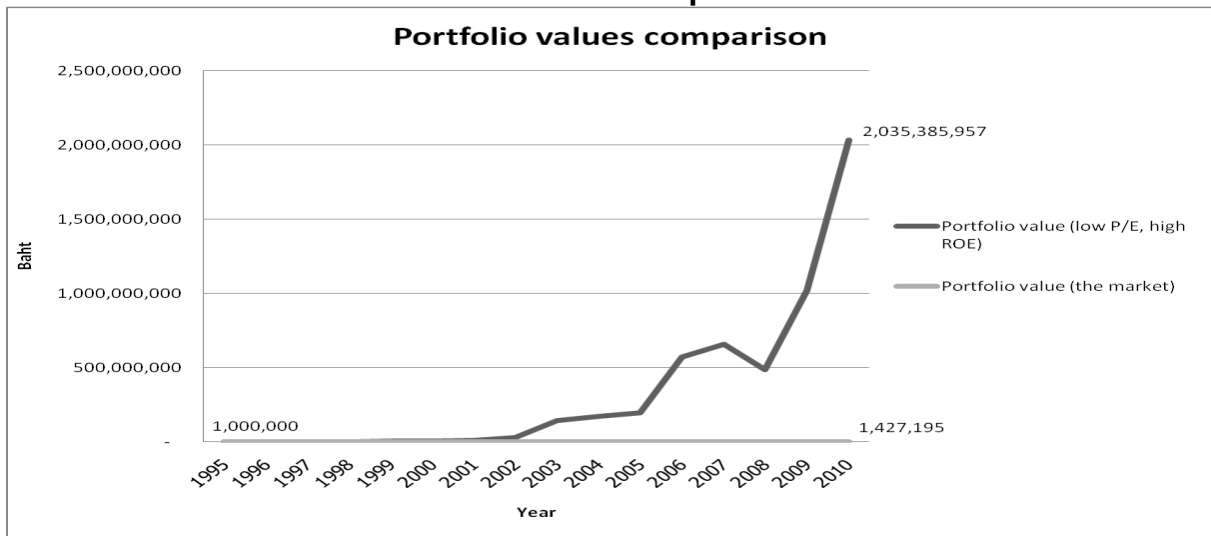


Figure 4 demonstrates that this particular value investing method, which denotes the investment in 30 stocks screened by the rankings of lowest P/E and highest ROE, increased investment value above the market average. Over 15 years (1996 - 2010) this method increased investment value by over 2,035 times. Investment value only grew by 1.4 times in the Stock Exchange of Thailand during the same period.

In summary, these two methodologies show that from 1996 to 2010 value investing produced more returns than average investment and growth investing in the Stock Exchange of Thailand.⁵

5. Conclusion and Implications

Value investing has been growing in popularity. In value investing, value stocks have lower market prices than their intrinsic values. Value investors believe that stock prices will eventually evolve to meet their intrinsic values. This method focuses on long-term investment; investors invest in stocks as if they were business co-owners. There are various value stock selecting methods. Most of the screening rules focus on market value to book value, price to earnings, and dividend yield. The ratio of market value to earnings per share and the return on capital are also crucial.

However, there is still skepticism whether value investing is truly effective. Studies have been conducted on value investing for over the past 30 years. Most of the studies have shown that value investing apparently produced above average returns. That being said, most of the studies have been conducted at major stock markets in developed countries, nonetheless. Emerging markets have seen much less studies of this fashion so far.

This study employed the three basic screening rules to select stocks and to test if value could be added to the investment portfolio in the Securities Exchange of Thailand. The test period covered 15 years, from January 1996 to December 2010. Using P/B, P/E, and dividend yield as screening rules, it was found that the

Sareewiwatthana

formed portfolios significantly outperformed the market. Furthermore, value stocks were found to outperform growth stocks, providing the value premiums during the period tested. When another set of screening rules modified from the Magic Formula was used to test the performance of stocks with low P/E and high ROE, the results indicated that the formed portfolios significantly beat the Thai market.

Nonetheless, this study encounters some limitations. Firstly, the data used are limited because of the small and thin characteristics of the Thai market. In addition, the time period covered in the study is rather short. The research would provide better results if longer period could be used. Secondly, the time period could be separated into sub-periods according to the economic situations—such as boom or bust and before or after the economic crisis. It is observed in this study that portfolio values exhibited significant upward trend from 2008 to 2010. In 2008-2009, the global financial crisis produced adverse impact on the stock prices all over the world including Thailand, providing opportunities for bargain hunters. Separated tests could be conducted to see if value premium existed during such a period. However, at present the recovering period is still short. It would add more value to the study if longer recovering period after the crisis could be used. Thirdly, this study does not include risk factors in the analysis. The results may be distorted because of the differences in the level of risk.

Thus, further studies are suggested as follow. Firstly, extend the period tested to cover the period before and after the Asian economic crisis during 1997-1999 and the period before and after the world financial crisis in 2008-2009 to see if there any different results. Secondly, include risk factors such as standard deviations or beta coefficients of the portfolios' returns into the analysis. Sharpe and Treynor indexes can be employed to signal the risk adjusted value premium.

All in all, despite the limitations, the empirical results found in this study imply that the Thai stock market is inefficient, so that abnormal returns could be obtained by using such basic screening rules as used in this study. Individual and institutional long term investors may adopt this stock-selecting approach for effective investment.

Endnotes

1. The efficient-market hypothesis was developed by Professor Eugene Fama. There are three major versions of the hypothesis: "weak", "semi-strong", and "strong". Weak EMH claims that prices on assets already reflect all past publicly available information. Semi-strong EMH claims both that prices reflect all publicly available information and that prices instantly change to reflect new public information. Strong EMH additionally claims that prices instantly reflect even hidden or "insider" information.
2. In his book, *The Little Book That Beats the Market* (2006), Greenblatt ranked stocks according to their ROA and P/E ratios and selected the first 30 stocks with the lowest sum of the ranks to form the value portfolio.
3. Hemwachirawarakorn and Intara (2008) used P/B, P/E, and dividend yield as screening rules, and the study covered 2003-2007. However, they did not test the significance of the differences.

Sareewiwatthana

4. Number of stocks in the portfolio

Year	Number of Stocks in Portfolio
1996	52
1997	89
1998	33
1999	58
2000	68
2001	83
2002	88
2003	83
2004	34
2005	54
2006	74
2007	63
2008	58
2009	159
2010	90

5. Since 1997-1998 was the period of economic crisis in Asia and the SET index dropped drastically, this study also tested the hypothesis for the period after the crisis. The same results indicated that value investing performed better than the average market during the period of 2001-2010.

References

- Basu, S 1977, 'Investment performance of common stocks in relation to their Price-Earnings ratios: a test of the efficient market hypothesis', *Journal of Finance*, vol. 32, no. 3, pp. 663-682.
- Chan, LK and Lakonishok, J 2004, 'Value and growth investing: review and update', *Financial Analysts Journal*, vol. 60, no. 1, pp. 71-86.
- Chan, LK, Hamao, Y and Lakonishok, J 1991, 'Fundamentals and stock return in Japan', *Journal of Finance*, vol. 46, no. 5, pp. 1739-1764.
- Fama, EF 1970, 'Efficient capital markets: a review of theory and empirical work', *Journal of Finance*, vol. 25, no. 2, pp. 383-417.
- Fama, EF and French, KR 1992, 'The cross-section of expected stock returns', *Journal of Finance*, vol. 47, no. 2, pp. 427-465.
- Fama, EF and French, KR 1998, 'Value versus growth: the international evidence', *Journal of Finance*, vol. 53, no. 6, pp. 1975-1999.
- Graham, B and Dodd, DL 1934, *Security analysis*, Whittlesey House, New York.
- Greenblatt, J 2006, *The little book that beats the market*, John Wiley & Sons, Hoboken.
- Hemwachirawarakorn, N and Intara, P 2009, 'Value investment and returns in Thai market', *NIDA Business Journal*, vol. 5, no. 5, pp. 77-90.
- Lakonishok, J, Shleifer, A and Vishny, RW 1994, 'Contrarian investment, extrapolation, and risk', *Journal of Finance*, vol. 49, no. 5, pp. 1541-1578.
- La Porta, R, Lakonishok, J, Shleifer, A and Vishny, RW 1997, 'Good news for value stocks: further evidence on market efficiency', *Journal of Finance*, vol. 52, no. 2, pp. 1715-1742.
- Larkin, PJ 2009, 'Can individual investors capture the value premium?', *Journal of Business & Economics Research*, vol. 7, no. 5, pp. 25-34.

Sareewiwatthana

- Oppenheimer, H 1984, 'A test of Ben Graham's stock selection criteria', *Financial Analysts Journal*, vol. 40, no. 5, pp. 27-36.
- Piotroski, J 2000, 'Value investing: the use of historical financial statement information to separate winners from losers', *Journal of Accounting Research*, vol. 38, supplement, pp. 1-41.
- Sharpe, WF 1966, 'Mutual fund performance', *Journal of Business*, vol. 39, no.1, pp. 119-138.
- Treynor, JL 1965, 'How to rate management of investment funds', *Harvard Business Review*, vol. 43, no.1, pp. 63-75.