E-ISSN : 2549-5992, P-ISSN : 2088-0944
Available online at:
https://ejournal.itbwigalumajang.ac.id/index.php/wiga

Comparative Analysis of Portfolio Performance Between Value Stocks and Growth Stocks During the Covid-19 Pandemic

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ARTICLE INFO

Date of entry:
15 February 2024
Revision Date:
27 February 2024
Date Received:
26 March 2024

ABSTRACT

The COVID-19 pandemic has had a significant impact on various aspects of life, including the stock market. This research aims to analyze the performance of value-stock and growth-stock portfolios during the pandemic to find out which investment strategy provided better performance during that period. This research uses a comparative analysis method. The population in this research is the value investing stock portfolio and the growth investing stock portfolio. The sampling technique in this research is purposive sampling with the criteria of shares that have low price valuations with transaction liquidity and good financial performance. The performance of the value stock portfolio is represented by the performance of the IDX Value 30 index, while the growth stock portfolio is represented by the performance of the IDX Growth 30 index. This research shows that there is no significant difference between the performance of the value-stock and growth stock portfolios during the pandemic. Later, this research will also use risk-adjusted returns in returns to include risk in return calculations. However, the results remain the same because there are no significant differences between the two portfolios. Therefore, we can conclude that the two investment strategies did not provide significantly different results during the pandemic.

Keywords: Investing Strategy, Growth Investing, Pandemic, Portfolio Performance, Value Investing

Cite this as: Huda, A. N., Kurniana, & Raharjo, T. (2024). Comparative Analysis of Portfolio Performance Between Value Stocks and Growth Stocks During the Covid-19 Pandemic. *Wiga : Jurnal Penelitian Ilmu Ekonomi*, *14*(1), 186–195. https://doi.org/10.30741/wiga.v14i1.1189

INTRODUCTION

The capital market is a market where companies get long-term capital by selling part of the company's shares to public investors (Badawi et al., 2023; Ihsani et al., 2023). With this mechanism, public investors can buy shares of companies they consider attractive and get profits both in the form of *capital gains*, and in the form of dividends (Syofyan et al., 2020). To benefit in the capital market, investors must be able to choose an investment strategy that can provide significant profits. Among

various investment strategies, value-based and *growth investing* strategies are investment strategies that capital market investors widely use.

Value investing is an investment strategy introduced by Graham (2017) and popularized by Warren Buffet. This investment strategy invests in stocks that are considered to have a cheap value compared to their intrinsic value. Therefore, this strategy invests in stocks that have a low *Price-to-Earnings* (P/E) ratio. Furthermore, *Growth investing* is a strategy where stock selection is based on companies whose growth rate is above the average mekupin, stock price valuations can also be categorized as stocks that are too expensive. Stocks that fall into this category are called *growth stocks* (Pagora et al., 2023; Pangaribuan et al., 2023).

The performance of *value investing* and *growth investing in* capital markets in various countries has been examined by several researchers. One of the pioneers of this research is Fama (1998). According to Fama's research (1998), with data from 1975 to 1995, concluded that *value* stocks tend to have higher returns than *growth stocks* in markets around the world. As in Brazil, through Vasconcelos & Martin (2019) which seeks to analyze how shares of companies that are *growing* and value create value for their shareholders in Brazil and compared to the United States (US) market. Contrary to findings in the U.S. market, emerging companies in Brazil show higher dividend growth than valued companies. The research found that the profitability of *growth* companies is higher than that of *value*, almost every year after portfolio formation, with little variation.

In other parts of the world, Naerobi, through the research of Ngacha, Z. W. (2009) who aims to determine empirically whether *value* stocks have a much better performance than growth stocks on the Nairobi Securities Exchange (NSE). It aims to expand on previous evidence showing that value stocks are not superior to growth stocks in the Kenyan stock market. The results showed strong evidence of premium value in NSE. From 1999 to 2007, *value* stocks generated an average annual return 49.9% higher than growth stocks (Silalahi, 2020; Vasconcelos & Martins, 2019). This margin is much higher than what has been proven even in developed markets such as America, Japan and some European countries. The study concluded that, if properly defined, *value stocks* would outperform *growth stocks* in the Kenyan market. The results of this study imply that investors in NSE are better off choosing *value stocks* overgrowth *stocks*.

Two investment strategies commonly considered are value stocks (stocks with low valuations relative to the company's fundamentals) and growth stocks (shares of companies with high growth potential). Value stocks are shares of a company that are traded at a relatively low price compared to their intrinsic value or fundamental value of the company. Usually, these shares are traded at lower prices compared to fundamental ratios such as price-to-earnings ratio (PE ratio) or price-to-book ratio (PB ratio) (Damodaran, 2024; Chemmanur & Yan, 2019). Investors interested in value stocks believe that the price of the stock may have exceeded its potential downside, and at the same time, the company may have been valued lower than it should have been based on its performance and assets. Value stock investment strategies often focus on companies that have the potential for consistent earnings growth or have assets that trade below their fair value (Liu et al., 2022). Meanwhile, growth stocks are shares of companies that have the potential for high profit or income growth in the future. These shares tend to trade at relatively high prices compared to their fundamental values, such as the price-to-earnings ratio (PE ratio) or price-to-book ratio (PB ratio) (Jansen, 2021). Investors who are interested in growth stocks believe that these companies have bright growth prospects and can achieve extraordinary performance in the future (Rahayu, 2021).

In Neves at al (2021) research which aims to analyze returns obtained from companies that have strong growth potential (growth stocks) and returns obtained from companies whose stock prices are quite low, but of high value (value stocks). The sample consisted of monthly data, from January 2002 to December 2016, from seven countries, Germany, France, Switzerland, the United Kingdom, Portugal, the United States and Japan. The authors have used linear regression models for three distinct periods, the pre-crisis, subprime, and post-crisis periods. This research shows that the

performance of *value* and *growth stocks* is different from other periods around the global financial crisis. In fact, in six countries, *value stocks* outperformed *growth stocks* in the period before the subprime crisis and during the crisis, this trend occurred only in France, Portugal and Japan. This trend changed in the period after the crisis. The results of this study also show that investor sentiment has a strong influence on the value and growth of stock returns, mostly in the pre-crisis period. This suggests that investor sentiment becomes more significant at a time when value stocks are performing better.

Research on the comparison of portfolio performance of value stocks and growth stocks in Indonesia has also been revealed by Askotamiya (2017). In Askotamiya's research (2017) revealed that there is a difference in the rate of return between portfolio value stocks and growth stocks in companies on the Indonesia Stock Exchange. The calculation results also show that the return rate of the *value* stocks portfolio is lower than the return of the growth *stocks* portfolio. This is also supported by the results of performance measurement between the two portfolios which show that *the performance of the value* stocks portfolio is lower than the performance of the growth stocks portfolio. Thus, it can be concluded that the application of *value investing* strategies cannot produce *higher stock returns.*

The latest research on the comparison of portfolio performance, *value stocks,* and *growth stocks* in Indonesia involving the conditions of the Covid-19 pandemic has also been conducted by Susilo & Widiastuti (2022), but this study only analyzes the Consumer Goods Industry sector. This research revealed that the Covid-19 pandemic event affected the performance of stocks in the *value stock category*. The average *return* on *stock value* has increased significantly compared to before the Covid-19 pandemic. Based on the average rate of return, the performance of stocks in the *value stock category* has superior performance compared to the performance of *growth stock.* Although the performance of stocks in the growth *stock category has* also increased, the performance of growth stocks has not outperformed the performance of *value stocks* (Cahyadi & Suganda, 2021). The Covid-19 pandemic event significantly affected the *value stock* and *growth stock*. There is a difference in return value stock between before the pandemic and during the pandemic and there is a difference in *return growth stock* between before the pandemic and during the pandemic. This shows that the Covid-19 pandemic event contains information on *value stocks* and *growth stocks*, so the capital market reacts with this information. *Return* stocks with *value stock* and *growth stock* categories before the Covid-19 pandemic statistically showed no difference. This shows that in the assessment process, uncertainty will always be dominant and is not a definite process because it involves forecasting in the future. Other results obtained on the return *value of stock* and *growth stock* during the Covid-19 pandemic show the difference between the two types of stocks. This shows that in addition to the Covid-19 pandemic containing information that affects the capital market, two categories of stocks, namely *value stock* and *growth* stock, have different valuations and returns according to the characteristics of each type of stock.

Seeing the various differences in research results on portfolio performance between *value* stocks and *growth stocks* in various countries and different time frames, this research is very interesting to always be reviewed, especially if added with the influence of certain crisis conditions. To increase knowledge about portfolio performance between *value stock* and *growth stock*, it is necessary to have continuous research. This study will try to continue previous studies, especially in Askotamiya (2017) and Susilo &; Widiastuti (2022), where this study will try to analyze the performance of *value stocks* and *growth stocks* portfolios in the Indonesian stock market during the Covid-19 pandemic in all sectors so that investment strategies that provide better returns during the pandemic can be known. The novelty of this research comes from the time setting of the research, namely after the Covid-19 pandemic. This is interesting because the Covid-19 pandemic has never happened before so this new factor can influence the research results.

E-ISSN : 2549-5992, P-ISSN : 2088-0944
Available online at:
https://ejournal.itbwigalumajang.ac.id/index.php/wiga

METHODS

This research uses a comparative analysis method. Comparative research methods are research approaches used to compare two or more phenomena, variables, or groups with the aim of identifying differences, similarities, or relationships between them (Buchner & Kerres, 2023; Kumar et al., 2020; Esser & Vliegenthart, 2017). Furthermore, the research objects used in this research are value investing stock portfolio and growth investing stock portfolio. The value investing stock portfolio is taken from the stock portfolio that makes up the IDX Value30 index which measures the price performance of 30 stocks that have low price valuations with transaction liquidity and good financial performance. In its official broadcast, BEI stated that the constituent shares of the IDX Value30 index were taken from the constituents of the IDX80 index which have positive net profit and equity and do not have extreme price-to-earnings ratios (PER) and price-to-book value (PBV). IDX Value30 will select thirty stocks that have the lowest P/E and PBV.

Meanwhile, the growth of the investment stock portfolio is taken from the stock portfolio that forms the IDX Growth30 index which has a trend in net profit and income growth relative to price with good transaction liquidity and financial performance. The IDX Growth30 index constituents are taken from the IDX80 index constituents which have net profits and do not have extreme PER ratios. IDX Growth30 will select thirty stocks that have the highest P/E and price-to-sales (PSR) trends. In comparing the performance of value investing and growth investing stock portfolios, the indicator used is the weekly return of the IDX Value30 and IDX Growth30 indexes with the following formula:

Weekly Return = (End of Week Index Value/Earlier Week Index Value) – 1

In addition, to take into account risk factors, another indicator used is *risk-adjusted-return* measured by sharpe ratio with the following formula:

Sharpe ratio = (Weekly return-risk free rate)/Standard deviasi

From the Sharpe ratio formula above, the ratio measures the excess return for each unit of risk which is measured using standard deviation. In other words, the greater the Sharpe ratio, the greater the return obtained for one unit of risk. The data used for the two indicators in this research are 103 weekly returns from the IDX Value30 index and Growth30 index from April 2020 to March 2022. Meanwhile, the risk-free interest rate used is the BI 7-day Repo Rate for the same period.

The data that has been collected is then tested to ensure the data is valid and reliable. Then the F test is carried out first to find out whether the two populations have variances that can be considered the same or not because the t-test used will be different for two populations that have the same variance and unequal variances. If the F-test proves that the two populations have unequal variances, the t-test will be used for the two populations that are considered to have different variances. On the other hand, if the F-test proves that the two populations have the same variance, then the t-test will be used for two populations with the same variance.

RESULTS AND DISCUSSION

Before doing the t-test, the author tried to get an overview of the performance of both portfolios using descriptive statistics. For the calculation of weekly returns without taking into account risk factors, descriptive statistics are obtained with the following results:

Table 1. Data Analysis Results

Indicator	*Value Stocks*	*Growth Stocks*
Mean	0.33%	0.18%
Standard Error	0.31%	0.21%
Median	0.37%	0.20%

Standard Deviation	3.12%	2.16%
Range	17.06%	13.04%
Minimum	-8.89%	-6.26%
Maximum	8.17%	6.78%
Count	103	103

Source: explained

From the table above, it can be seen that *the portfolio value stocks on average provide a higher rate of return which can be seen from an average of 0.33% compared to the return of the growth* stocks portfolio which is only 0.18%. In addition, the median value of portfolio *value stocks* is 0.37% which means that 50% of population data gives a return above 0.37%. Meanwhile, the median value for portfolio *growth stocks is only 0.20%, which means that 50% of the stocks in the* portfolio growth stocks provide returns above 0.20%. From the explanation above, it can be concluded that in general, the performance of *portfolio value stocks* provides higher returns.

Although it provides a high rate of return, value *stocks* portfolio has a higher level of risk. This can be seen from the lower minimum value of portfolio value stocks at -8.89%, while portfolio *growth stocks* at -6.26%. The *vaue* stocks portfolio also has a wider minimum and maximum value range of 17.06%, while *the growth stocks* portfolio is only 13.04%. Furthermore, another risk indicator that shows a higher value is the standard deviation which shows a value of 3.12% for portfolio value *stocks*, while portfolio *growth stocks* are only 2.16%. The explanation above shows *that value stocks portfolios have a higher data distribution* than growth stocks portfolios so that *value* stocks portfolios can be considered riskier than *growth stocks portfolios.* From the explanations above, it can be seen that nominally, portfolio *value* stocks have a higher rate of return and level of risk compared to portfolio *growth stocks.*

Descriptive statistics are also carried out to see the data picture of returns that have been adjusted for risk factors or *sharpe ratio.* The descriptive statistical results for *sharpe ratio* are as follows:

Table 2. Data Analysis Results

Indikator	*Value Stocks*	*Growth Stocks*
Mean	0.23	0.31
Standard Error	0.19	0.20
Median	0.30	0.10
Standard Deviation	1.97	2.02
Range	12.26	11.54
Minimum	-6.89	-5.07
Maximum	5.37	6.47
Count	103	103

Source: explained

From the table above, it can be seen that the growth stocks portfolio *on average gives* a higher sharpe ratio *of 0.31 which means that for every 1 risk unit*, the growth stocks portfolio can provide a return of *0.31, while the value* stocks portfolio only provides a return of 0.23. However, *the median value of portfolio value stocks is higher at 0.30 which means 50% of the population data has a sharpe ratio* above 0.30 compared to the median value for portfolio *growth stocks of only 0.10 which means 50% of the stocks in the* portfolio growth stocks *have a* sharpe ratio above 0.10. From the explanation above, it can be concluded that on average, the performance of portfolio *growth stocks* provides *a higher* sharpe ratio.

Judging from the *sharpe ratio* indicator, although it provides a high rate of return, portfolio *growth stocks* have a higher level of risk. This can be seen from the value of standard *deviation* which shows a value of 2.02 and *a standard error* of 0.20, while for portfolio *value stocks* only 1.97 and 0.19.

E-ISSN : 2549-5992, P-ISSN : 2088-0944
Available online at:
https://ejournal.itbwigalumajang.ac.id/index.php/wiga

However, portfolio value stocks also have a wider range of 12.26 with a minimum value of -6.89 and a maximum value of 5.3, while *portfolio growth stocks* have a range of 11.54 with a *minimum value of -5.07 and a maximum* of 6.47. When viewed in terms of *standard deviation, the explanation above shows that* portfolio growth stocks *have a higher data distribution than portfolio* value stocks, *although the insignificant difference in value shows that the difference in data distribution between the two is also not much different.*

Although nominally from the descriptive statistical depiction it can be seen that portfolios provide better *returns* and risk-adjusted-returns, *further evidence is needed using statistical rules to prove that empirically there is a significant difference in performance between portfolio* value stocks *and portfolio growth stocks.* Therefore, the author will use the average difference test using the T test to empirically prove the difference in performance between the two portfolios.

Before the T test, the authors must first test whether the two populations have the same or relatively different data distribution. Therefore, the authors first used the F test to see if both populations had *equal* or *unequal variances.* The results of the F test conducted by the authors for returns that have not been adjusted for risk are as follows:

Table 3. Data Analysis Results

	Weekly Return - Value	***Weekly Return - Growth***
Mean	0.003250788	0.001844665
Variance	0.000973358	0.000467648
Observations	103	103
df	102	102
F	2.081388877	
P(F<=f) one-tail	0.000129823	
F Critical one-tail	1.387152204	

Source: explained

From the table above, it can be seen that the resulting p-value is 0.012%. This value is smaller than the alpha value or *significance level* set at 5% so that it can be concluded that both populations have *unequal variance.*

After knowing that both populations have unequal variance, a *t-test for both populations that have* unequal variance *is then performed and the following results are obtained:*

Table 4. Data Analysis Results

	Weekly Return - Value	***Weekly Return - Growth***
Mean	0.003250788	0.001844665
Variance	0.000973358	0.000467648
Observations	103	103
Hypothesized Mean Difference	0	
df	182	
t State	0.375931824	
P(T<=t) one-tail	0.353702704	
t Critical one-tail	1.653269024	
P(T<=t) two-tail	0.707405408	
t Critical two-tail	1.973084077	

Source: explained

From the results of the table above, it can be seen that the p-value has a value of 0.71 which is greater than the alpha value or *significance level* set at 5%, so it can be concluded that the t-test shows no significant difference between the weekly return of portfolio *value stocks* and *growth stocks.* Or in

other words, it can be concluded that there is no significant difference in performance between the two portfolios.

Furthermore, the authors also performed the same procedure to empirically prove whether portfolio performance measured by return that has considered risk factors using the sharpe ratio will give different results. Test F is again performed to find out whether the variance of sharpe retio from both portfolios is *equal* or *unequal.* The results of the F data sharpe ratio test are as follows:

Table 5. Data Analysis Results

	Sharpe_Value	***Sharpe_Growth***
Mean	0.225907857	0.308561277
Variance	3.889304854	4.071098105
Observations	103	103
df	102	102
F	0.955345401	
P(F<=f) one-tail	0.40900324	
F Critical one-tail	0.720901425	

Source: explained

From the table above, it can be seen that the resulting p-value is 40%. This value is greater than the alpha value or *significance level* set at 5%. So it can be concluded that both populations have *unequal variance.*

After knowing that both populations have equal variance, a *t-test for both populations that have* equal variance *is then performed and the following results are obtained:*

Table 6. Data Analysis Results

	Sharpe_Value	***Sharpe_Growth***
Mean	0.225907857	0.308561277
Variance	3.889304854	4.071098105
Observations	103	103
Pooled Variance	3.980201479	
Hypothesized Mean Difference	0	
df	204	
t Stat	0.297311644	
P(T<=t) one-tail	0.383265561	
t Critical one-tail	1.652357326	
P(T<=t) two-tail	0.766531122	
t Critical two-tail	1.971660889	

Source: explained

From the results of the table above, it can be seen that the p-value has a value of 0.76 which is greater than the alpha value or *significance level* set at 5%, so it can be concluded that the t-test shows no significant difference between the weekly risk-adjusted-return (sharpe ratio) of portfolio *value stocks* and *growth stocks.* Or in other words, it can be concluded that there is no significant difference in performance between the two portfolios.

DISCUSSION

Portfolio value stocks tend to perform better in terms of weekly returns, while portfolio growth stocks perform better in terms of risk-adjusted returns (Sharpe ratio), but empirical evidence via t-test shows that there is no significant difference between the performance value of stock and growth stock portfolios, both in terms of return and risk-adjusted-return (Sharpe ratio). It should be noted

that this research has not compared the performance of value stock and growth stock portfolios between the pre-pandemic period and the period during the pandemic.

The results of previous research by (Al Faruk, 2022) show that there are significant differences in stock returns, ROE, EPS and PBV between before the pandemic and during the Covid-19 pandemic in Indonesia. Meanwhile, in PER, there is no significant difference between the two comparison periods. Another research by (Krisantana & Pratomo, 2022) found that Bitcoin is the investment that provides the greatest return on assets. Based on the significance value, each instrument also has real risk differences, the Swiss franc is the highest performer on the Sharpe and Jensen Ratios while on the Treynor, bitcoin is highest performance, and Based on its significance value, each instrument also has a significant difference between the Treynor and Jensen ratios.

Another study by (Askotamiya & Agnes, 2023) found that there was no significant difference between the performance of value and growth stock portfolios. The value stock portfolio has higher performance than the growth stock portfolio when measured by the Treynor and Jensen ratios, while the rate of return and Sharpe ratio actually show the opposite value. In addition, the results of this research found that only growth stock portfolios in large companies had positive returns, thus indicating that the majority of shares in the Indonesian capital market responded negatively to information available during the COVID-19 pandemic.

Other research by (Nurhayati et al., 2021) shows that FREN is the highest beta with a value of 1.8189, which shows that the index is an effective and well-diversified stock. FREN has a low price and the stock with the highest market capitalization in its tick size (third tier stock). Jensen's Alpha is good for measuring the performance of large-cap and low-priced stocks. There are eight stocks that always have negative values in every method of measuring stock performance, which indicates that these stocks performed poorly during COVID-19.

The findings of this research can provide valuable insights for companies, especially for investment or financial management teams, in managing their investment portfolios. Although there is no significant difference in performance between value stock and growth stock portfolios, understanding investor preferences and the performance characteristics of both types of stocks can help in making better investment decisions. First, companies can use these findings to evaluate their current investment portfolios and adjust them to their risk preferences and investment objectives. For example, if companies tend to look for stocks with strong growth potential, they may tend to focus more on growth stocks. However, if a company is more concerned with long-term stability and value, they may prefer to allocate more resources to valuing the stock. Second, companies can take advantage of these findings to improve their portfolio diversification strategies. By understanding that value stocks and growth stocks have different performance characteristics, companies can look for ways to combine these two types of stocks in their portfolios to achieve desired levels of risk and return.

CONCLUSION

Although through descriptive statistics, it can be seen that portfolio *value* stocks have better performance in terms of weekly returns and portfolio *growth stocks* have better performance in terms of risk-adjusted-return (sharpe ratio). However, empirical evidence through the t-test shows that there is no significant difference in the performance of portfolio *value* stocks and *growth stocks* in terms of both return *and* risk-adjusted-return *(*sharpe ratio). This research has not compared the performance of portfolio *value stocks* and *growth stocks* between pre-pandemic and pandemic periods. Therefore, researchers can then compare the performance of portfolio *value stocks and* growt stocks *in the period before and during the pandemic for all sectors.*

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