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# Value Stocks versus Growth Stocks: An Examination of Bursa Malaysia

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**ABSTRACT**

The main objective of this research is to construct hypothetical value and growth portfolios and compare their performance on Bursa Malaysia over the examination period from January 01, 2006 to January 01, 2020 (168 months). This research also analyses whether there are differences in the performance between value and growth stocks in different sizes of the issuing company. Risk and return characteristics, risk-adjusted return, and the sample paired t-test are examples of statistical tests used in this research. The results emphasised that the average value premium over the examination period was 1%, and hence, the performance of growth and value stocks was broadly similar. When the capitalisation levels of issuing firms are taken into account, the results during the entire examination and the global financial crisis affirmed that the size effect exists only in the value category, while in the growth category, it does not exist. On the other hand, the value effect exists in the large-cap and small-cap categories. Besides, the value effect in small-cap stocks is higher compared to large-cap stocks. Finally, the results also demonstrate that value stocks have a significantly higher mean return than growth stocks at a level of 0.05, despite the firm's size.

**Keywords:** Value Stocks, Growth Stocks, Portfolio, Bursa Malaysia
**JEL Classifications:** G11, G15, G41

## 1. INTRODUCTION

Morningstar developed a style box in 1992 to categorise investments according to their strategy. A grid of nine squares called the Morningstar style box graphically illustrates the "investment style" of mutual funds and stocks (Friedman, 2002). The vertical axis represents the small, mid, and large-size categories of investment, while the horizontal axis shows stock and fund-specific investment strategy categories like "value" and "growth." The central column defines "blend" differently for funds and stocks. For funds, it reflects the blend style which, according to the style box, is a combination of growth and value stocks. For stocks, the centre column of the chart represents the "core style," in which neither value nor growth characteristics dominate (Morningstar, 2022). This box assists investors in building portfolios based on the characteristics and style factors of all the portfolio's funds and stocks. Figure 1 illustrates the nine squares of the Morningstar-style box.

The squares of the Morningstar-style box are constructed by intersecting the three size categories with the three investment strategy categories. As it is noted from the figure, the nine squares are as follows: (1) the large value; (2) the large blend; (3) the large growth; (4) the medium value; (5) the medium blend; (6) the medium growth; (7) the small value; (8) the small blend; and (9) the small growth. Investors can utilize a style box as a useful tool when choosing their asset allocation. Financial advisors frequently evaluate the risk-return characteristics of various equity styles since Morningstar decided to categorise domestic equity mutual funds into one of the nine style categories.

Fama and French (1993) emphasised that size and value anomalies are considered possible risks in portfolios, and investors should compensate for investing in size and value stocks (Rohuma, 2022). Investors may be familiar with historical data showing that small-cap portfolios typically have higher long-term average returns but also more volatility than large-cap portfolios (Banz, 1981; Guo

**Figure 1:** Morningstar Style Box


The figure is adapted from Morningstar (2009)

et al. 2017; Maulina and Nuzula, 2018; Arnaya and Purbawangsa, 2020). The performance of so-called value and growth stocks is less well-known and more debatable. Therefore, this paper focuses on value and growth stocks.

According to Cakici and Topyan (2014), Chen (2017), Guo et al. (2017), and Addanan et al. (2018), stocks that are now trading for less than their real value are categorised as "value stocks" because they will provide a higher return. Value stocks essentially operate under the assumption that a stock's temporary undervaluation will result in higher returns than a passive investment approach once the market recognises it and corrects the price (Glasgow, 2022). On the other hand, growth stocks are those stocks that analysts believe have the potential, over time, to outperform the market as a whole (Glasgow, 2022; Chang et al. 2023). Value investors look for stocks that seem undervalued, while growth investors look for stocks with rapid profit growth. Therefore, value and growth stocks have been essential in developing tactics that could affect investors' decisions in the future (Bourguignon and De Jong, 2003). Typically, investors use a variety of methods and tactics to earn higher rates of return. For example, fund managers may use two fundamental stock investment strategies, value and growth.

According to numerous studies such as Drew and Veeraraghavan (2002), Penman et al. (2015), and Gautam and Holani (2021), value stocks perform better than growth stocks in different stock markets. However, there are not many studies that aim to compare the difference in performance between value and growth stocks among emerging markets that have exhibited rapid economic growth, such as Malaysia. Since stock market behaviour is different between countries, the performance of value and growth stocks may differ. Therefore, this research undertakes to compare the performance of value and growth stocks in Bursa Malaysia over the examination period from January 01, 2006 to January 01, 2020. This is to contribute to the financial development and discussion regarding the performance of value and growth stocks. Especially in emerging markets, where this kind of research is still uncommon.

### 1.1. Research Question

The main question of this research is: How are the value stocks different from the growth stocks in terms of their performance on Bursa Malaysia?

From the main question, the research's secondary questions are as follows:

1. Is there a value premium in Bursa Malaysia over the examination period?
2. Is there a size premium in the value and growth stocks in Bursa Malaysia over the examination period?
3. Is there a value premium in the large and small-cap stocks in Bursa Malaysia over the examination period and three-year periods?
4. Are there significant differences in the mean return between the value and growth stocks of different sizes of the issuing company in Bursa Malaysia over the examination period?

## 2. LITERATURE REVIEW

The argument between researchers concerning the performance of the two different investment strategies, growth and value investing, may never be resolved. Financial literature demonstrates a clear tendency toward value stocks since they outperform growth stocks over long periods and in both developed and emerging economies (An et al. 2017; Garcia and Oliveira, 2018). Yet, there were also sub-periods in the short-term studies where growth stocks outperformed value stocks (Cronqvist et al. 2015; Bischof, 2021). Cakici et al. (2013) found that value stocks outperformed growth stocks in terms of mean returns from January 1990 to December 2011 in several developing nations and regions, including Eastern Europe (Czech Republic, Hungary, Russia, Poland, and Turkey), Latin America (Argentina, Brazil, Chile, Colombia, and Mexico), and Asia (China, India, Indonesia, South Korea, Malaysia, Philippines, Taiwan, and Thailand). These results are supported by Mueller-Glissmann et al. (2022).

Gonenc and Karan (2003) investigated the differences in returns between value and growth portfolios, as well as between portfolios with small and large market capitalisations, on the Istanbul Stock Exchange (ISE). The findings showed that growth portfolios outperformed value portfolios in terms of performance, and they both underperformed the market benchmark. Additionally, the authors affirmed that the firms with a larger market capitalisation were considered superior compared with firms with a small market capitalisation. These findings demonstrate that the ISE's market structure and stock trading fundamentals are distinct from those of other marketplaces.

According to data from investment management services provider Research Affiliates LLC, American value stocks' return on equity fell behind growth stocks between 1968 and 2007 by 11% (Teng, 2020). Furthermore, Bischof (2021) compared the performance of value and growth stocks during the period from 1993 to 2020. The period includes (1) the tech bubble in the 2000s, (2) the global financial crisis (GFC) in 2007-2008; and (3) the coronavirus pandemic in 2019-2020. The authors found that growth stocks outperformed value stocks before the tech bubble burst, but when the bubble burst, the growth stocks underperformed. Moreover, growth stocks performed better than value stocks in most of the period from 1993 to 2020, especially in the tech bubble and Coronavirus periods. However, value stocks surpassed growth stocks only in the period before 1994 and in the period before the

GFC, even during these periods, the difference between growth and value stocks was negligible. Growth stocks have driven the markets over the past ten years; however, this market condition is temporary, as value stocks have been in the lead for the past six months (Bischof, 2021).

Beneda (2002) argued that the study time is crucial, as the author compared the performance of growth stocks and value stocks over a lengthy period (up to 18 years) by using a buy-and-hold approach. The results show that growth stocks have outperformed value stocks over the long term (14 years or more). After just five years, value stocks are more profitable over a short period. Along similar lines, Penman et al. (2015) found that value stocks exhibited a higher return than growth stocks after two years of portfolio construction.

Equally important, the performance of the growth stocks on Bursa Malaysia is examined by Addanan et al. (2018). Treynor's measure, the Sharpe ratio, and Jensen's alpha are some of the measures used to examine the performance. The results indicated that Treynor's and Sharpe's performance measures of the growth stocks outperformed the market, but Jensen's alpha was somewhat below the market. Teng (2020) debates that over the past decade, Malaysian growth stocks have generally outperformed value stocks, yet over the past three months, Malaysian value stocks did seem to have reclaimed some of their promises. Drew and Veeraraghavan (2002) asked in their paper whether there are size and value effects on the KLSE - Kuala Lumpur Stock Exchange (currently known as Bursa Malaysia). The result asserted that there are size and value premiums in the KLSE. The evidence of Hu et al. (2019), on the other hand, has found a significant size effect but no robust value effect.

Along similar lines, in Portugal, Italy, Ireland, Greece, and Spain, from 2003 to 2015, value and growth portfolios were constructed and evaluated by Garcia and Oliveira (2018). The regressions from Fama and Macbeth (1973) and their model extensions are used in this article. The results confirm a significant value premium in these countries, which is consistent with earlier research done elsewhere. Moreover, in seven East Asian nations, Ding et al. (2005) examined the value and growth portfolios before the 1997 Asian Financial Crisis. Except for Indonesia, Taiwan, and Thailand, it is found that the value premiums in these counties are primarily positive. The researchers found higher returns in Hong Kong and Malaysian value stocks with small firm sizes and low growth potential. Higher returns are also found in growth portfolios with small firm sizes and low growth potential in Japan and Singapore. Growth stocks with a small firm size in Taiwan and a large firm size in Thailand have higher returns. In Gautam and Holani's (2021) study, the Fama and French three-factor model is empirically tested for size and value anomalies in the Indian stock market. The dataset includes the 50 stocks with the highest volume of trading on the national stock exchange of India from April 01, 2010 to March 31, 2020. The returns were significantly impacted by the market risk premium, size premium, and value premium.

Neves et al. (2021) aimed in their study to compare the returns between growth and value stocks in seven countries - Germany, France, Switzerland, the United Kingdom, Portugal, the United States, and Japan from January 2002 to December 2016. By employing linear regression models, the results demonstrated that the value and growth of stock performance varied over time following the GFC. Value stocks outperformed growth stocks in six countries before and during the subprime crisis, and only France, Portugal, and Japan continued to exhibit this trend. In the post-crisis period, this pattern shifted. Likewise, Bevanda et al. (2021) evaluated the performance of value and growth stock portfolios in companies listed in the Dow Jones industrial average companies (DJIA). Levene's homogeneity test, the Mann-Whitney U-test, the t-test, and the One-Sample t-test are examples of statistical tests. The findings show that following the GFC, growth stocks outperformed value stocks. Value stock portfolios are significantly outnumbered by growth stock portfolios, and the value premium vanishes.

As a result, there is no rule that growth stocks will always outperform value stocks, or vice versa, this is why portfolio diversification is important. The differences in results could be attributed to the differences in study methods, the differences in examination periods and the differences in market conditions at the time the studies were done. Therefore, this study tries to answer the open question of which stocks performed better, the value or growth, in Bursa Malaysia during the examination period from January 01, 2006 to January 01, 2020.

## 3. DATA AND METHODOLOGY

The monthly data for 14 years, starting on January 01, 2006 and ending on January 01, 2020, is employed in this research. Using monthly data instead of daily or weekly data allows the research to avoid large market fluctuations during the examination period. The data were mainly obtained from the Taiwan Economy Journal (TEJ), Bursa Malaysia, and Bank Negara Malaysia -the central bank of Malaysia-. To avoid the impact of extreme values on the results, in accordance with Rohuma (2023) by using the Winsorisation approach outlined in Van Rensburg and Robertson (2003), this research remedies the outliers by excluding 0.5% outliers from the top and bottom and replacing these values with the 99.5$^{th}$ and 0.5$^{th}$ percentiles, respectively.

One of the earliest metrics used in equity financial research is the book-to-market value ratio (BTMV), which is calculated by dividing the stock's book value by its market value. BTMV is typically used to distinguish between value and growth stocks (Graham and Dodd, 1934; Fama and French, 1998; De Vasconcelos and Martins, 2019). Value stocks have a high BTMV, while growth stocks have a low BTMV (Gautam and Holani, 2021; Chang et al. 2023). The value and growth stocks and the large and small-cap stocks were the only two categories considered by Fama and French (1993). Following Fama and French (1993), if a stock's BTMV was in the top 30% of the BTMV of all stocks in the research data, it was categorized as "value," while if a stock's BTMV fell within the bottom 30%, it was categorised as "growth." Similarly, if a stock's market capitalisation exceeds the median market capitalisation, it is categorised as "large." Other than that, it was categorised as "small."

Therefore, the four portfolios that are constructed by intersecting the value and growth portfolios with the large and small portfolios are as follows: (1) large and value: which is a large-cap with a high BTMV portfolio, hereafter referred to as (L&H); (2) large and growth: which is a large-cap with a low BTMV portfolio, hereafter referred to as (L&L); (3) small and value: which is a small-cap with a high BTMV portfolio, hereafter referred to as (S&H); and (4) small and growth: which is a small-cap with a low BTMV portfolio, hereafter referred to as (S&L). The reason of constructed these four portfolios is to investigate the difference in the performance between value and growth stocks of different size of the issuing company. It is worth mentioning that the rebalancing of these portfolios occurs yearly, at the end of December.

### 3.1. Evaluation Methods

In the beginning, this research identified the sectors for each of the value and growth stocks in Bursa Malaysia. This is to distinguish the most important sectors in each type of stock. Afterwards, it computes the annual return of value and growth stocks over the examination period. The annual return is calculated by computing the annual average return, as shown in Equation 1:

$$\bar{r}_x = \frac{\sum_{t=1}^{T} r_{x,t}}{T} \quad (1)$$

Where, $r_{x,t}$ is the return of portfolio $X$ in month $t$; and $T$ is the number of months. It is worth mentioning that a stock's return is obtained directly from the database provided, the TEJ. The research then examines the risk and return characteristics and risk-adjusted return. To calculate the risk, the standard deviation and beta coefficient are used. The portfolio standard deviation is a measure of the portfolio's overall risk, including systematic and unsystematic risk. The standard deviation for portfolio x is calculated as follows in Equation 2:

$$\sigma_x = \sqrt{\frac{\sum_{t=1}^{T}\left(r_{x,t} - \bar{r}_x\right)^2}{T-1}} \quad (2)$$

While the beta coefficient, which is determined by regressing the time series of the portfolio excess return on the time series of the market risk premium, estimates the sensitivity of the returns on the portfolio to movements in the market risk premium.

In terms of risk-adjusted return, the following measures are used in this research:

### 3.2. Sharpe Ratio (1966)

This ratio, which evaluates a portfolio's potential for excess return relative to the risk-free rate, is calculated using Equation 3 as follows:

$$SR_x = \frac{\bar{r}_x - \bar{r}_f}{\sigma_x} \quad (3)$$

Where $\bar{r}_f$ is the average return of the risk-free proxy in the period.

### 3.3. Treynor Measure (1965)

This measure is similar to the Sharpe ratio but instead of using standard deviation as a measure of risk in the formula, it employs a beta coefficient since it depends on diversification's ability to reduce unsystematic risk.

### 3.4. Jensen's Alpha (1968)

This measure evaluates the actual return on the portfolio over the expected return calculated by the CAPM, and it is computed as follows in Equation 4:

$$\alpha_x = \left(\bar{r}_x - \bar{r}_f\right) - \beta_{x,m} \times \left(\bar{r}_m - \bar{r}_f\right) \quad (4)$$

Where $\bar{r}_m$ is the average return of the market portfolio; and $\beta_{x,m}$ is the beta coefficient between the portfolio $x$ return and the market return $m$.

The higher the risk-adjusted return in a portfolio, the higher the performance of the portfolio. The risk and return characteristics and risk-adjusted return for value and growth stocks are calculated twice: first, over the entire examination period, and then, during the GFC of 2007-2008.

The sample paired t-test is then used to determine whether the mean return difference between growth and value stocks is significant over the examination period. The test in this research has a 5% level of significance. The null hypothesis states that there is no statistically significant difference in the mean return between the two portfolios, while the alternative hypothesis states that there is a statistically significant difference in the mean return between the two portfolios.

According to Hsieh and Hodnett (2011), it is essential to construct a market proxy from the available sample stocks to conduct a fair evaluation of portfolios that are created from the same pool of sample stocks. As a result, this research constructs a portfolio that includes all stocks in the research data and considers it a market proxy. Furthermore, the 3-month Bank Negara Treasury Bills rate is used as a risk-free rate.

## 4. RESULTS

Before comparing the performance between value and growth stocks, evaluating the contrasts between the business sectors of these stocks is noteworthy. Figure 2 illustrates the sectors of value and growth stocks at the end of December 2020.

Generally speaking, growth stocks are usually issued by companies engaged in more inventive and dynamic activities, characterised by a greater potential for growth in the future, as opposed to value stocks, which mostly belong to businesses in stable sectors. This is confirmed in the results of Figure 2, as there is a clear dominance of the industrial products and services sector with 38%, followed by the financial services sector with 24%, and consumer products and services with 21% in the value stocks. It is worth mentioning that the industrial products and services as well as the financial services sectors are somehow considered stable sectors. While the representation of the other sectors does not exceed 7%. Compared to value stocks, the industrial products and services sector in growth stocks decreased by 12%, reaching 26%. The stocks of financial services companies also decreased to 14%. The result was the opposite for the consumer products and services sector, which saw an increase to 30%. The percentage of the technology sector was 10% in growth stocks, which had no significant representation in value stocks since the majority of growth stocks are a part of the technology sector (Bevanda et al., 2021). The technology sector is characterised by the greater potential for growth in the future The dominant sectors in growth stocks are consumer products and services, which include, in Bursa Malaysia, agricultural products, consumer services, food/beverages, travel, hospitality, etc.

## 4.1. Annual Return of Value and Growth Stocks

Figure 3 presents the average annual return of the value and growth stocks over the examination period from January 01, 2006 to January 01, 2020. The average return is calculated at the end of December every year.

The results of the figure above show that the returns of value and growth stocks are moving up and down in tandem. However, the yearly return of value stocks outperformed the yearly return of growth stocks in the majority of the examination period (9 years), which included the subprime crisis that initiated the GFC in 2007/2008. This is clear from the results in Figure 4 below, which computes the annual value premium, which is the difference in the annual return between value and growth stocks.

It is evident from the figure above that the value premium is presented in Bursa Malaysia for most of the study period. Yet, there was a negative value premium in 2006, 2010, 2013, 2015, and 2017. In the GFC period of 2008/2009, the return of value stocks was higher than the return of growth stocks. This is in line with Mueller-Glissmann et al. (2022), who found that value stocks typically outperformed growth stocks, not just during bull markets but also during bearish markets. The results of this research are consistent also with Addanan et al. (2018), who asserted that value investing typically yields higher returns than growth investing over the long term.

However, according to Bischof (2021), growth stocks outperformed value stocks for the majority of the time between 1993 and 2020, particularly during the tech bubble and the Coronavirus eras. Value stocks did not beat growth stocks until the years before 1994 and the years before the GFC, and even then, the gap between growth and value stocks was insignificant. Besides, Bevanda et al. (2021) found that growth stocks now outperform value stocks, as evidenced by financial theory and investment management implications since 2009. Causes could include (1) an expansionary monetary policy with very low long-term interest rates and (2) the tech industry's strong success, which the majority of growth stocks are a part of.

In conclusion, value stocks in Bursa Malaysia showed an average annual return of +6% over the examination period, compared to growth stocks' 5% return, and hence, the average value premium was equal to 1%. This may be interesting, as the results somehow indicate that the return performance of value and growth stocks

**Figure 2:** Main sectors of value and growth stocks

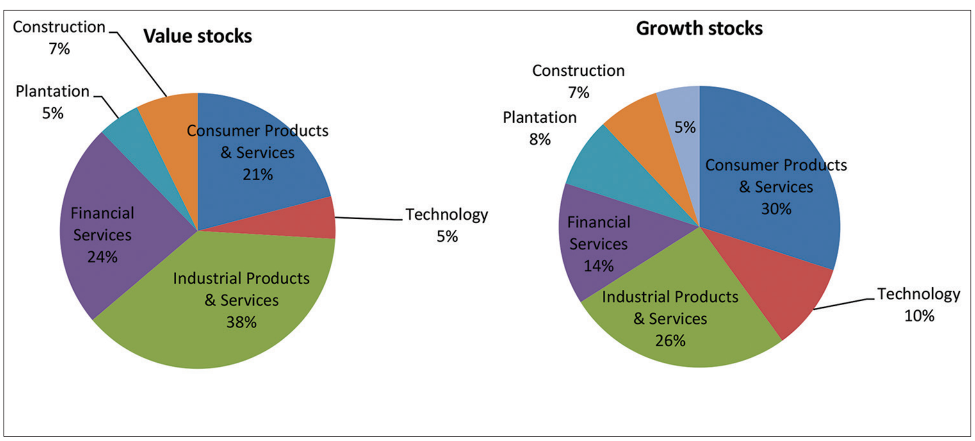



**Figure 3:** Annual return of value and growth stocks

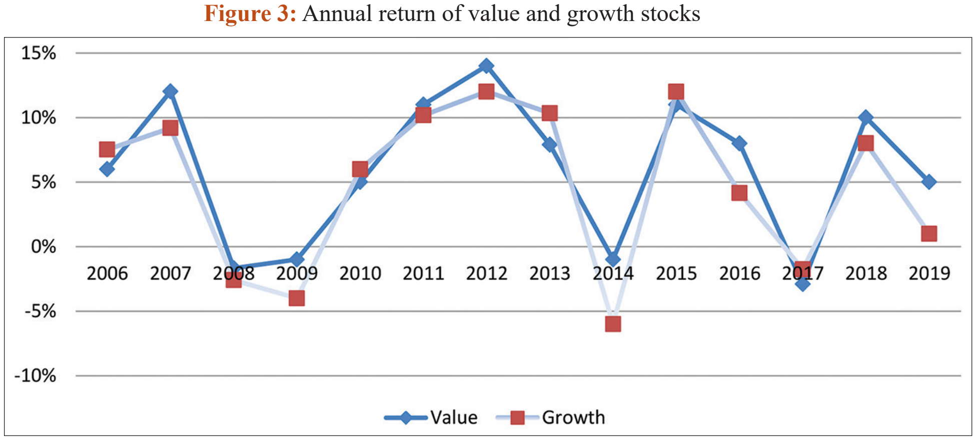
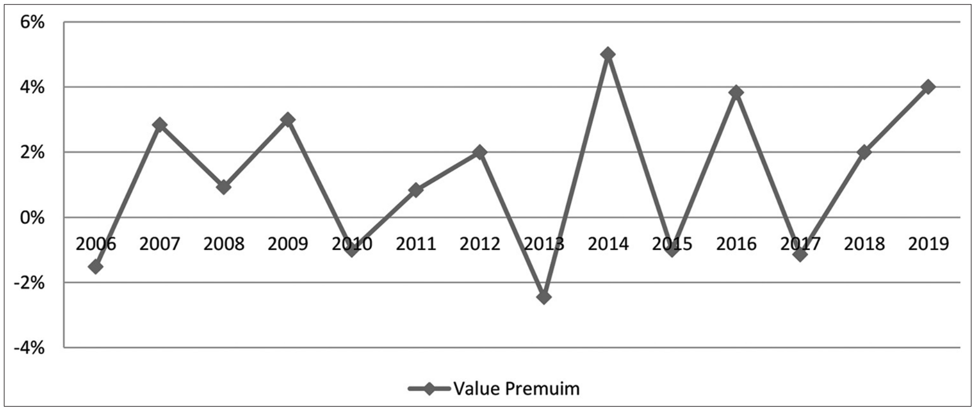


**Figure 4:** Value premium over the examination period




is comparable. These results support the results made by Bischof (2021), who concluded that the difference in return performance between growth and value stocks was negligible. As a result, neither the claim that value will always outperform growth nor the idea that growth will always be more secure than value are rules. Different market conditions will affect how different markets function. Thus, the diversification of a portfolio is crucial for this reason.

## 4.2. Value versus Growth Stocks Performance in Different Firm Sizes

When taking into account the level of capitalisation of issuing companies in Bursa Malaysia, it is relevant to analyse whether there are differences in terms of risk and return characteristics and risk-adjusted return offered by the value and growth stocks over the examination period.

The results of Table 1 indicate the following:

### *4.2.1. Size effect*

In the value category (L&H vs. S&H), the small-cap portfolio (S&H) earns a higher return of 1.378% than the return earned by the large-cap portfolio (L&H), of 1.341%. The small-cap portfolio (S&H) achieved a higher return with a lower standard deviation of 5.028% and a significantly lower beta coefficient of 1.042 compared to the standard deviation of 6.206% and the beta coefficient of 1.240 for the large-cap counterpart (L&H). This is reflected in the risk-adjusted performance, as the small-cap portfolio (S&H) outperforms its large-cap counterpart (L&H) in all three risk-adjusted return measures.

On the other hand, the return of the large-cap portfolio (L&L) of 0.764% is significantly higher than the return of the small-cap portfolio (S&L) of -0.060% in the growth category (L&L vs. S&L). The large-cap portfolio (L&L) has a lower risk measured by the standard deviation of 4.224% and a lower risk measured by the beta coefficient of 0.905 compared to the standard deviation of 4.688% and a beta coefficient of 0.921 for the small-cap counterpart (S&L). Since the large-cap portfolio (L&L) has a higher return and a lower risk than the small-cap portfolio (S&L), the large-cap portfolio (L&L) outperforms its small-cap counterpart (S&L) in all three risk-adjusted return measures.

**Table 1: Risk and return results for value and growth stocks in different firm sizes**

| | L&H | L&L | S&H | S&L |
|---|---|---|---|---|
| Return | 1.341% | 0.764% | 1.378% | −0.060% |
| SD | 6.206% | 4.224% | 5.028% | 4.688% |
| β | 1.240 | 0.905 | 1.042 | 0.921 |
| Sharpe ratio | 0.176 | 0.122 | 0.225 | −0.066 |
| Treynor measure | 0.009 | 0.006 | 0.011 | −0.003 |
| Jensen's alpha | 0.004 | 0.000 | 0.005 | −0.008 |

### *4.2.2. Value effect*

In the large-cap category (L&H and L&L), the return of the value portfolio (L&H) of 1.341% outperforms the return of the growth portfolio (L&L) of 0.764%. Concerning the risk, the growth portfolio (L&L) is safer than the value portfolio (L&H), since it has a lower standard deviation of 4.224% and a lower beta coefficient of 0.905, while the standard deviation and beta coefficient for the value portfolio (L&H) are 6.206% and 1.240, respectively. The risk-adjusted return results indicate that the value portfolio (L&H) outperforms the growth portfolio (L&L) in all three risk-adjusted return measures.

The return of the value portfolio (S&H) of 1.378% exhibits a higher return than the return presented by the growth portfolio (S&L) of -0.060% in the small-cap category (S&H and S&L). The higher return of the value portfolio (S&H) is accompanied by a higher standard deviation of 5.028% and a beta coefficient of 1.042 compared to the standard deviation of 4.688% and the beta coefficient of 0.921 for the growth portfolio (S&L). Besides, the value portfolio (S&H) enjoys a higher Sharpe ratio of 0.225, Treynor ratio of 0.011, and Jensen's alpha of 0.005 compared to the Sharpe ratio of −0.066, Treynor ratio of −0.003, and Jensen's alpha of −0.008 for the growth counterpart (S&L).

Furthermore, the beta coefficient can be used to examine and evaluate irrational financial market movements and to determine the risk during times of crisis (O'Shaughnessy, 2005). The evidence of this research is in line with the evidence of Fama and French (1998) and Athanassakos (2009), who demonstrate that value stocks' beta is higher than growth stocks' beta. This is clear in the results of this study, as the beta coefficients are higher in value stocks than in growth stocks in both large and small caps.

On the other hand, Gulen et al. (2011) showed that value stocks' excess returns are substantially more impacted during recessions than growth stocks' excess returns. Also, Lakonishok et al. (1994) found that value stocks typically have higher returns than growth stocks when the market is in a downward trend. Therefore, this research recalculates the risk, return, and risk-adjusted return for value and growth portfolios in different company sizes during the GFC in 2007/2008. According to Rohuma (2023), the GFC period in Bursa Malaysia was from July 2007 to February 2009 (20 months). Table 2 presents the results for value and growth stocks in different company size categories.

The results of Table 2 indicate the following:

#### *4.2.3. Size effect*

In the value category (L&H vs. S&H), the small-cap portfolio (S&H) outperforms the large-cap counterpart (L&H) in the average return, the standard deviation, and the three risk-adjusted return measures. While in the growth category (L&L vs. S&L), the large-cap portfolio (L&L) outperforms the small-cap counterpart (S&L) in the average return, the beta coefficient, and the three risk-adjusted return measures.

#### *4.2.4. Value effect*

In the large-cap category (L&H and L&L), the return of the value portfolio (L&H) outperforms the return of the growth portfolio (L&L). The value portfolio (L&H) also has a higher standard deviation but is accompanied by a lower beta coefficient than the standard deviation and beta coefficient of the growth portfolio (L&L). The results are inconsistent for the risk-adjusted performance, where the Sharpe ratio of the value portfolio (L&H) outperforms the Sharpe ratio of the growth portfolio (L&L), while the Treynor measure of the value portfolio (L&H) underperforms the Treynor measure of the growth portfolio (L&L). Yet, for both kinds of portfolios, Jensen's alpha is the same. On the other hand, the return of the value portfolio (S&H) exhibits a higher return and higher risk-adjusted return measures than the growth portfolio (S&L) in the small-cap category (S&H and S&L). The value portfolio (S&H) also has a higher standard deviation and a lower beta coefficient than the standard deviation and beta coefficient of the growth portfolio (S&L).

On the other hand, the beta of value stocks is lower than the beta of growth stocks during the GFC. It is noted also from the results in Tables 1 and 2 that the beta coefficients for value and growth stocks in the GFC are lower than their values in the entire examination period. This is logical, given the impact of the crisis on all stock returns. This result agrees with the results obtained by De Bondt and Thaler (1985) and Huang et al. (2012). Generally speaking, value stocks often have a higher beta than growth stocks in bullish markets and a lower beta than growth stocks in bad markets. According to this logic, value stocks have a more significant influence than growth stocks because they are more sensitive during volatile financial market times.

**Table 2: Risk and return results for value and growth stocks in different firm sizes during the GFC**

| | L&H | L&L | S&H | S&L |
|---|---|---|---|---|
| Return | −2.051% | −2.227% | −0.608% | −3.382% |
| SD | 7.407% | 6.123% | 6.532% | 5.388% |
| β | 0.719 | 0.882 | 0.753 | 0.898 |
| Sharpe Ratio | −0.314 | −0.409 | −0.136 | −0.679 |
| Treynor Measure | −0.032 | −0.028 | −0.012 | −0.041 |
| Jensen's Alpha | −0.003 | −0.003 | 0.010 | −0.014 |

In line with Chan and Lakonishok (2004), this study found that value stocks beat growth stocks when the market or economy performed poorly. The value-growth spread may therefore be influenced by economic conditions, and as a result, market or economic fluctuations (bullish or bearish trends) may indicate changes in investment strategies (from value to growth stocks or from growth to value stocks). According to Mueller-Glissmann et al. (2022), value stocks typically outperform growth stocks not just during bull markets but also during bear markets, this result is confirmed by this research. Besides, Black and McMillan (2006) found that when economic conditions are unfavourable, the return and risk of value stocks tend to be higher. Contrary to Kirrage (2020) and Bischof (2021), the results of this research are considered favourable for value investors, since value portfolios beat growth portfolios in both categories, small and large. Thus, unlike Teng (2020), this study could not find any strong evidence that Malaysian growth stocks outperformed value stocks.

In conclusion, over the entire examination and GFC period, the results emphasise that the size effect exists only in the value category, while in the growth category, it does not exist. On the other hand, the value effect exists in both, the large-cap and small-cap categories. The return of the S&H portfolio is the highest compared to other portfolios. This is consistent with the Fama and French (1993) rationale. Besides, the results agree with Bauman et al. (1998) who found that value stocks beat growth stocks on a total-return basis and on a risk-adjusted return for the 10-year period in twenty-one countries.

### 4.3. Value Effect in Large and Small-Cap. Stocks During Three-Year Periods

According to Warren (2014), there is no clear or widely agreed-upon definition of what determines short-term versus long-term investing. However, Kamara et al. (2013, cited in Warren, 2014) reveal that different stock market factor exposures are valued across a range of time horizons, with 2-3 years being the longest. Therefore, to determine if the value effect is present across the three-year period over the examination period, Table 3 displays the results of the value effect in the large and small stocks every three years, unless for the last period where it covers only two years (2018 and 2019).

Unlike Emm and Trevino (2014), who concluded that over the past 30 years, the value premium was not present among large companies, the results in the table above indicate that the value effect is present in large and small-cap stocks over the entire examination period (2006-2019) and sub-periods, except for the period 2015-2017 in the large-cap stocks, where the effect disappeared. Overall the examination of sub-periods, the value effect in small-cap stocks is much higher than the value effect in large-cap stocks. This might be because the return on value stocks is typically higher than the return on growth stocks (Fama and

**Table 3: Value effect in large and small-cap. stocks**

| | Return of Larg-cap. Stocks (%) | | | Return of Small-cap. Stocks (%) | | |
|---|---|---|---|---|---|---|
| | Value | Growth | Value premium | Value | Growth | Value premium |
| 2006-2008 | 1.31 | 0.13 | 1.18 | 1.61 | −1.09 | 2.69 |
| 2009-2011 | 2.51 | 1.71 | 0.80 | 1.88 | 0.27 | 1.61 |
| 2012-2014 | 1.30 | 0.91 | 0.40 | 1.55 | 0.28 | 1.27 |
| 2015-2017 | 0.21 | 0.35 | −0.14 | 0.42 | 0.35 | 0.07 |
| 2018-2019 | 1.35 | 0.69 | 0.66 | 1.44 | −0.10 | 1.54 |
| 2006-2019 | 1.34 | 0.76 | 0.58 | 1.38 | −0.06 | 1.44 |

**Table 4: Sample paired t-test results**

| Sample paired t-test | Mean | t | Sig. (0.05) |
|---|---|---|---|
| L&H versus L&L | 0.006 | 2.443 | 0.016** |
| L&H versus S&H | 0.000 | 0.492 | 0.624 |
| L&H versus S&L | 0.014 | 4.259 | 0.000** |
| L&L versus S&H | −0.006 | −2.371 | 0.019** |
| L&L versus S&L | 0.008 | 3.798 | 0.000** |
| S&H versus S&L | 0.014 | 5.308 | 0.000** |

** Significant at 5%

French, 1993; Black et al., 2009; Gautam and Holani, 2021), and the return of small-cap stocks is also typically higher than the return of large-cap stocks (Banz, 1981; Arnaya and Purbawangsa, 2020).

### 4.4. Mean Difference Returns Analysis Between Value and Growth Stocks in Different Firm Sizes

The sample paired t-test is conducted in this research to examine whether the differences in the mean returns between the L&H, the L&L, the S&H and the S&L are statistically significant. Table 4 demonstrates the results of the sample paired t-test over the entire examination period. Any result significant at a 5% level is highlighted in bold.

The results in Table 4 assert that, despite the firm's size, value stocks have a higher significant mean return than growth stocks at a level of 0.05. In detail, the mean return of the L&H is significantly higher compared to the mean return of the L&L and the S&L. Besides, the mean return of the S&H is significantly higher compared to the mean returns of the L&L and the S&L. However, there are no significant differences in the mean return between value portfolios, the L&H and the S&H, while in growth portfolios, the mean return of the L&L is significantly higher than the mean return of the S&L. That is more evidence that the value effect exists in Bursa Malaysia. Fama and French (1998) concluded that between 1975 and 1995, value stocks outperformed growth stocks in twelve out of thirteen global markets.

## 5. CONCLUSION

The performance of value and growth stocks among large and small companies is examined in more depth in this study over 14 years in Bursa Malaysia, starting in January 2006. The results highlighted that the performance of growth and value stocks was largely comparable and that the average value premium throughout the study period was 1%. The results also indicate that the value effect is present in large and small-cap stocks over the entire examination period. Moreover, the small-value stocks continued to beat the small-growth stocks. Additionally, value stocks outperformed growth stocks during the entire examination period and the GFC period, for both large and small-sized companies.

Small-value companies may be a better option than small-growth companies for investors who are willing to put up with the higher volatility that comes with small stocks due to their improved risk-return trade-off. However, for portfolio diversity, some investors may include both growth and value stocks. Others may choose to specialise by placing more of an emphasis on value or growth.

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