Does Value Strategy Outperform the Growth Strategy in Colombo Stock Exchange?: Special Reference to War Effected Market 2000-2018

H J R Buddhika

P N D Fernando

S L J E R

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Abstract

The study focused on whether value stocks outperform the growth stocks taking evidence from listed companies in Colombo Stock Exchange and to identify whether there is a structural break with the end of the thirty-year war prevailed in Sri Lanka. The scholars considered value and growth agreement in developed capital markets, has concluded with contradictory results and the attention towards frontier markets such as Sri Lanka is poor. Current strategy incorporates Wilcoxon Rank Test and Chow Test for daily data for the period from 2000 to 2018 supported by previous scholars. The study found the growth portfolios were given higher returns in the war period. The results reveal the post-war period; the value portfolio returns outperform growth portfolio returns (2009-2018). Further, no structural break was detected during the period.

Keywords: *Colombo Stock Exchange, Growth Stocks, Value Stocks, Dividend Yield Price to Earnings Ratio, Structural Break*

H J R Buddhika (Corresponding Author)

Department of Finance, Faculty of Commerce and Management Studies, University of Kelaniya.

Email: buddhikar@kln.ac.lk   Tel: +94 71 651 5952   https://orcid.org/0000-0001-9857-0113

P N D Fernando

Department of Finance, University of Kelaniya
Email: pndfernando@kln.ac.lk

INTRODUCTION

The importance of the stock market is vital and it provides signals to the investors. The concept refers to the "signaling effect". It may be positive or negative. Large investors critically evaluate the behavior of the stock market. Collapse of a stock market would be a black mark to the entire economy of the particular country. The disappointing incidents and events demotivated investors and existing investors also leave the market immediately with the uncertainty environment.

In finance literature there is an endless debate on the outperformance of value investing and growth investing. Finance literature, specifically related with developed capital markets has been extensively researched about these phenomena and concluded with contradictory results. The attention of researchers to test this phenomenon in emerging and frontier markets is low. The importance of investment is vital for a particular country. The growth of the stock market is a dominant sign of a developing industrial sector and a growing economy of the country. Growth of the stock market indicates positively to the outsiders there will be a potential situation to grow the economy of the country. It would comfort to attract more investors to the stock market investment. Stock market prominently acts as an intermediary party. Because one party receives funds and the other party makes the investment with the intention of receiving a return in the upcoming future. The process should standardize step by step to grow the economy of the country. Since 1985 it has shown a massive growth and it reached the highest point of 7,811 in February 2011. End of 31st August 2020 there were 286 listed companies in CSE with a total market capitalization of Rs. 2,316.19 Bn even though the market is small. The recent Capital Market Progressive Report of CSE mentioned foreign investment was 34.4% out of total transactions and this finding strongly is a fundamental for both foreign and local investors.

The main research problem is to evaluate and identify whether the value stocks outperforming the growth stocks in the long term in Colombo Stock exchange (CSE) where the time period which was considered from 2000 to 2018. There are discrepancies in Colombo Stock Exchange which stocks outperform a highest possible return in the long run. The finding accommodates investors for their investment decision makings based on long run and short run.

The study aims to identify the growth and value stocks in Colombo stock exchange. For this identification it is needed to find out characteristics of stocks separately. Further the article would try to provide a platform to identify the value stock and growth stocks in CSE based on empirical evidence. The final results of the study examine the performances of value and growth stocks.

The investors and potential investors of CSE might be facilitated with the find out on this research thesis. he researches has tapped Sri Lanka to investigate value investment

strategies Pathirawasm (2009), but still a gap exists to identify whether value strategy outperform the growth strategy in post war period and to detect any structural break during the period.

LITERATURE REVIEW

Basu (1977) tested empirically the relationship with Price to Earning (P/E) ratio with the investment performance of equity securities. The study used New York Stock Exchange (NYSE) data from 1956 to 1971 and used three criteria to select the sample firms. However, he concludes that P/E ratio information was not fully reflected in security prices in a rapid manner as postulated by the semi strong form of the efficient market hypothesis. Further, Basu (1977) mentioned the fourteen-year time duration is not fair enough to describe the behavior of the P/E ratio.

Beneda (2002) used eighteen-year data and completed the thesis. However, the results show that the average return of high P/E stocks outperforms that of low P/E stocks over long periods, up to 18 years. These results tend to support the efficient market hypothesis and suggest that Price-Earnings (P/E) ratios do, in fact, reflect what investors think about the future growth opportunities. But the low P/E ratios to earn excessive high risk adjusted rate of return: the concept was adjusted in Basu (1977) whereas Beneda (2002) did not consider it when she was doing her empirical analysis.

Value stocks tend to have higher returns than growth stocks in markets around the world. Value stocks outperform growth stocks in twelve in thirteen major markets during the year from 1975-1992, Fama and French (1992). Further two scholars argued that the difference incurs would be the value premium and it was a characteristic of emerging markets. International Capital Asset Pricing Model (ICAPM) does not explain the value premium of international returns and suggests using one state variable ICAPM or two factor models or three factor models. They finalized that USA stock returns might be more suitable to go ahead with a three-factor model.

Fama and French (1998) concluded the results that the Value stocks have higher returns than growth stocks in markets around the world for the period 1975 through 1995. Further value stocks outperform growth stocks in twelve of thirteen major markets. The findings through the article reveals that the international capital asset pricing model cannot explain the value premium, but a two-factor model that includes a risk factor for relative distress captures the value premium in international returns. This output results are supported with the initial article of Fama and French (1992).

Lo and Wang (2007) define "bear markets" as when the market benchmark has an annual return lower than two percent and "bull markets" when the returns are higher than two percent. The findings empirically proven were value investment stocks were more feasible for generating high returns rather than investing in growth stocks. Rasul (2013)

found a significant positive relationship between risk and return for the value and growth portfolios based on P/E ratio. According to the standpoint of risk return ratio value portfolio is more efficient than the growth portfolio and value stocks outperform a growth stock which was initially pointed out by Basu (1977) and Beneda (2002).

The Majority of research based on value and growth stocks are based on USA, England, Canada and Asian Pacific countries. The studies regarding emerging markets are very rare. Athanassakos (2009) further evaluated how the P/E process can be used for identifying value stocks in bear and bull market conditions based on Canadian stock market data. He used data from 1985 to 2005. Further evaluate that value premium not driven by a particular industry, as the value premium was positive for most industries. Through his research paper he concluded that P/E based valuation is more consistent and more accurate for identifying value stocks.

Regarding value and growth stocks, very less number of articles can be found in Sri Lanka context completed using Colombo Stock Exchange. Pathirawasam (2009) used an E/P ratio for evaluation which most of foreign researchers used P/E ratio. From 1995 to 2009 all listed and delisted stocks data included. The E/P portfolio was formed on a monthly, quarterly and annual basis. For all the portfolio rebalancing periods, the value portfolio outperforms the growth portfolio which the previous ideas determined Basu (1977) and Beneda (2002). The thesis indicates the growth stocks may provide highest returns on a short run basis whereas value stocks may provide consistent returns over a number of years. He strongly advised that investors can buy value stocks that have high E/P ratios and hold those stocks for longer term to have a better investment performance than investing in growth stocks with low E/P ratio.

Pathirawasam (2009) mentioned that CSE is a small market and firm does not affect for evaluation of growth and value stocks, which is a contradiction idea and go against with Fama and French (1992) but go align with the concept discussed in the Sharpe (1985) through the book Investments.

Knopers (2014) conclude there is indeed a value premium on the Dutch stock market. Data was extracted from the 149 stocks of Euronext Amsterdam Exchange based on time duration from 1994 to 2013. CAPM module is used for identifying the value premium. The CAPM model is a quick way to evaluate the return of a stock or a portfolio against the market average return. In order to calculate the required rate of return for the value portfolio used 10-year Dutch bond yield as a proxy for the risk-free rate. The average annual yield was obtained from the website of the Nederlandsche Bank. The differentiation between value and growth stocks identified based on seven main factors. Namely Price to Earnings ratio (P/E), Price to Book Value ratio (P/B), Price to Cash flow ratio (P/CF), Return on Assets (ROA), Return on Invested Capital (ROIC), Dividend Yield (DY) and size.

After the analysis they found out 30% of lower valuation relates to "value stocks. The 30% with the highest valuation is associated with "growth stocks". The remaining 40% portfolio is considered as "middle stocks". However, this empirical study was little bit different compared to any other previous analysis.

However, there may be some superior performance associates to value portfolios in 1995 and 2003. He concluded that Value stocks do substantially outperform growth stocks on the Euronext Amsterdam stock market between 1995 and 2013 which the argument of Basu (1977), Pathirawasam (2009) proved. The major drawback of the thesis was the impact of transaction cost may not be considered into calculation.

Evaluation with all articles of scholars the higher sample size needs to be considered. Same time the time duration also needs to be extended. Whereas the majority conducted the research paper based on a ten to fifteen (10-15) year basis. Also thin trading and delisted moments need to be adjusted within the calculation. Finally, the risk or the premium should adjust to the data set with proper assumptions.

METHODOLOGY

To distinguish between value and growth stocks current study used three main ratios. After reviewing the extensive literature following three ratios identified to define the growth stocks and value stocks.

- P/E ratio
- P/BV ratio
- Dividend Yield ratio

This study is mainly framed with the four main variables. They are Daily stock price, Earnings per share, Book value per share and Annual dividend per share. The secondary data which is used for the analysis can be extracted from Colombo Stock Exchange (Daily share price) and the annual reports and quarter reports of each company (Earnings per share, Book value per share and Annual dividend per share).

The sample consists of 54 listed companies in CSE which were filtered based on thin trading effect and satisfy three ratios, P/E ratio, P/BV ratio and Dividend Yield (DY). Companies which listed in between 2000 to 2018 excluded from the sample. Daily returns were computed for 54 companies using log returns. The log return computed for all selected companies as based on the following equation.

$R_1 = \text{In (Pt.i/Pt.i-1)}$

Pt.i = the closing price of company i for month t

Pt.i-1 = the closing price of company i for previous month

The data collection period is from 2000 to 2018. It covered 18 years of the CSE. The P/E ratio, P/BV and DY ratios were formed on an annual basis. At the end all the sample companies were ranked based on P/E, P/BV and Dividend yield ratios and grouped into two different portfolios named; value portfolio and growth portfolio.

Their returns were computed on a daily basis using daily prices. The stocks which had not traded 219 days or below within an investment horizon, the average return was computed without taking the relevant companies into consideration. This would explain the thin trading impact.

FINDING AND DISCUSSION

The section focused on the results of the findings. The data period is from 2000 to 2018. The period further separated into two namely; war period vs. post war period. The tests and the final results were discussed through this section.

Unit Root Test

The entire data set (returns) from 2000 to 2018 tested stationary separately for value portfolio and growth portfolio using ADF Test and they are stationary in level form.

Table 1: Augmented Dickey-Fuller test statistic

Augmented Dickey-Fuller Test	t-Statistic	Prob.*
Value Stocks	-106.4428	0.0001
Growth Stocks	-3.518833	0.0075

Source: Eviews Output

Wilcoxon Rank Test

After completing the initial test, the next step is to apply the Wilcoxon Test. Pathirawasm (2009) used Wilcoxon Test for the return evaluation for the portfolios. It would apply for the entire time duration with the sample companies. Value and Growth portfolios from year 2000 to 2018 run within a one data sheet. The results revealed the growth stocks outperform value stocks for the period in 2000 to 2018 in Sri Lankan stock market.

According to the output there are 13,550 minus ranks which mean how much data is supportive for growth stocks outperforming the value stocks in the long run. It will prove with the sum of ranks total. There are 9,999 variables which value stocks outperforming growth stocks during the period 2000 to 2009. Apparently, there are 18,664 variables which gave the same results in growth and value portfolios between two data sets. Thus,

the growth stocks outperformed value stocks in 2000 to 2009 and it is highly statistically significant at 1%.

Table 2: War Duration Return Calculation

	2000 to 2009	N	Mean Rank	Sum of Ranks
Value War Growth War	Negative Ranks	13550[a]	13316.80	180442654.00
	Positive Ranks	9999[b]	9685.65	96846821.00
	Ties	18664[c]		
	Total	42213		

a. Value War<Growth War   b. Value War>Growth War   c. Value War=Growth War

Test Statistics[a]	
	ValueWar – GrowthtWar
Z	-40.158[b]
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test   b. Based on negative ranks

Source: SPSS Output

According to the output there are 13,596 minus ranks which mean how much of data supportive for growth stocks outperforming the value stocks in duration 2009 to 2018 (Post war period). It will prove with the sum of ranks total. There are 13,990 variables which value stocks outperforming growth stocks from 2009 to 2018. Apparently there are 28,660 variables which gave the same results in growth and value portfolios between two data sets.

Table 3: Post War Return Calculation

	2009 -2018	N	Mean Rank	Sum of Ranks
ValuePostWar - GrowthPostWar	Negative Ranks	13596[a]	14124.07	192030794.00
	Positive Ranks	13990[b]	13472.24	188476697.00
	Ties	28660[c]		
	Total	56246		

a. ValuePostWar < GrowthPostWar   b. ValuePostWar > GrowthPostWar
c. ValuePostWar = GrowthPostWar

Test Statistics[a]	
	ValuePostWar – GrowthPostWar
Z	-1.771[b]
Asymp. Sig. (2-tailed)	.077

a. Wilcoxon Signed Ranks Test   b. Based on negative ranks

Source: SPSS Output

However, the final output measures in the post war duration value portfolio outperform the growth portfolio which produces a little bit of contradicted result. By looking at the sum of ranks values positive ranks column which indicated the value stocks outperforming growth stocks has a value of 188,476,697.00. The positive value for the post war period exceeds the total value of negative value. The finding is statistically significant at 10%.

The research findings were different where the civil war is not considered in scholar articles. They have been used for duration and proved statistical findings. The Dhaka Stock Exchange statistics proved that the value portfolio is better than growth portfolio (Rasul, 2013); the value stocks have higher returns than growth stocks in USA market from 1975 -1995 (Fama & French 1998); the growth stocks have higher returns rather than value stock returns in long run from 1983 -1987 in USA (Beneda, 2002). The results contradicted and not simultaneously compared to the Sri Lankan context. The growth stocks were outperformed during the war period and where the value stocks were outperformed in the post war period. The scholarly articles were limited to compare and contrast with Sri Lankan context.

Chow Test

The full sample period we break into two sections as war duration and post war period. But we need to check if comparing two different time frames is structurally feasible or not. The two-time intervals further check through Chow test for check on structural break.

Table 4: Value Stock

Dependent Variable: Value					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	.000[a]	1	.000	.215	.643
Intercept	3.407	1	3.407	2414.707	.000
Value	.000	1	.000	.215	.643
Error	59.558	42211	.001		
Total	63.190	42213			
Corrected Total	59.558	42212			
a. R Squared = .000 (Adjusted R Squared = .000)					

Source: SPSS Output

The probability intercept value is less than 5% indicates the two data periods structurally stable. The significance value is 0.000 which means two data periods are structurally stable whereas need to accept the H_0 (Null Hypothesis) and reject the H_1.

The probability intercept value is less than 5% indicates the two data periods structurally stable. The R square value is at 0.000 where as two data periods are structurally stable whereas need to accept the H_0 (Null Hypothesis) and reject the H_1.

Table 5: Growth Stock

Dependent Variable: Growth

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.000[a]	1	.000	.055	.815
Intercept	3.334	1	3.334	1249.105	.000
Growth	.000	1	.000	.055	.815
Error	112.845	42277	.003		
Total	116.644	42279			
Corrected Total	112.845	42278			
a. R Squared = .000 (Adjusted R Squared = .000)					

Source: SPSS Output

CONCLUSION

The main consideration in investment is to receive the highest return as soon as possible. In CSE for higher return the best way to invest in growth portfolios Sri Lanka is an emerging economy in South Asian region. Therefore, the highest return generated by growth portfolios can be practical. Whereas the growth stock companies want to attract more investors to them. The easiest way of attracting is paying a higher dividend. End of the day a large number of people gather around growth stocks for higher returns. Value stocks are basically considered as matured companies who are supposed to pay consistent returns to their shareholders.

During the war era the output result indicated growth stocks return outperforming value stocks. It concluded from 2000 to 2009 higher returns received for the investors who invest on growth portfolios. It indicates that investors highly focused on share price appreciation (capital gain) during that period. In post war period interpretation is given that value portfolio return outperforms growth portfolio from 2009 to 2018. End of war, the investors are highly attracted to value companies to go with consistent returns. It indicated that share prices increased gradually after the end of war. This finding might lead for investors to justify the investment decisions based on the type; risk lovers, risk averse & risk neutral characters.

Further for future research it is better to adjust the risk factor to the return calculation. The risk factor can be calculated through Beta factor. Late development anyone can use

two factor or three factor models rather than using a single factor model to provide more accurate answers based on listed entities in CSE. Risk adjustment not considered in this thesis and for future scholars can consider that with the research.

If any further research can evaluate the impact to the CSE with the political, social and economic factors is a different type of findings. And it helps to define how it impacted the listed entities in Colombo Stock Exchange. Further findings can build up the relationship among growth stocks and value stocks with the qualitative factors. Further researchers can apply the dividend paid by each company along with daily returns.

The further researcher can address the macroeconomic component implication for the research where Sri Lanka is highly affected by political factors. The time duration can be expanded and can be tested from the execution date of the CSE. The findings are applicable for Sri Lankan and south Asian markets where the market capitalization is comparatively low with European context.

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