Performance of Value and Growth Stocks: Returns of Stocks on Dhaka Stock Exchange

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ABSTRACT *The study examines the performance of value and growth stocks on DSE, an emerging stock market in South Asia for the period of 2000 to 2009. The P/E and the P/B ratios are used to classify value and growth stocks for a 10-year period. Stocks with low ratios are value stocks and stocks with high ratios are growth stocks. The returns difference between value and growth stocks is value premium. The performance of value and growth portfolios have been examined in terms of mean annual portfolio returns and one to five- year buy-and- hold returns for the same value and same growth portfolio. The study found that value stocks portfolio outperforms growth stocks portfolio. However, the results indicate that a P/E ratio based search process appears to do a better job than does a search process based on P/B ratio in the Dhaka Stock Exchange during the study period. JEL Classification: G11, G12*

1. Introduction
Value and growth investing are widely considered as two contrasting strategies for investment in the capital market. Considerable attention has been devoted to explaining the differences in returns performance between such value and growth stocks.

The value investor is looking for a company with sound fundamentals that may trade below its "intrinsic value" for some reasons. The market should eventually correct its inaccurate valuation and send stock prices sharply upward when that correction occurs.

Growth investors normally buy stocks of companies that are capable of increasing sales, earnings, and other important business metrics by a minimum amount each year. The stocks that are bought by growth investors often appear expensive at first glance but such stocks must be looked at from a future perspective.

Review of literature
Value investing was first developed in the 1930s by Graham and Dodd (1934). In the early 20th century, investors were guided mostly by speculation and insider information. Graham believed, however, that the true value of a stock could be determined through research. In the late 1960s and in the 1970s, there was a strong belief in Efficient Market Hypothesis (EMH) and this implies that portfolio managers cannot systematically outperform the market. At the end of the 1970s and during the 1980s, market efficiency was questioned and research on anomalies emerged. Academics found anomalous abnormal returns for groups of stocks. Basu (1977) first showed that stocks with low P/E ratios subsequently tend to have higher average returns than stocks with high P/E ratios. More recently, Arshanapalli and Nelson (2007), Phalippou (2008) and Athanassakos (2009) found evidence consistent with a positive value premium. Empirical research has, however, been done about the U.S. and other international stock markets. In this study, the performance of value and growth stocks has been analysed on Dhaka Stock Exchange.

Rationale and objective of the study
Value and growth stocks may indeed perform differently in non-U.S. markets because of the differences in the ways investors behave in those markets. Bauman (1989). Bauman and Johnson (1996) showed that the availability, quality, and timeliness of research information used by investors frequently vary considerably from one country to another. This provides the reason for conducting a study on proposed topics by using data of the DSE. The main objective of this study is to evaluate the performance of value and growth invest-

ing strategies and test whether the value stocks outperform growth stocks on Dhaka Stock Exchange .

3. Methodology and Data Description
3.1 Secondary data
Since the data required from the Dhaka Stock Exchange before 2000 is not published in DSE website and is not available in any other easily accessible way, the study limited to use data which are already available in soft copy, compiled and printed. The data for all stocks listed on DSE have been collected from four sources. One is DSE website. The second is the publications of central library of the Dhaka Stock Exchange such as Various Issues of Monthly Review, fortnightly capital market, and Annual Report of the Dhaka Stock Exchange during the study period. The third is the website of Securities Exchange Commission of Bangladesh. The fourth is the publications of SEC such as Quarterly Review and Annual Report under the study period.

3.2 Sample selection
The method of selecting value and growth stocks is done by systematic sampling. The total observations are 678 individual listed stocks that are taken from the population of 3390 individual stocks of the Dhaka Stock Exchange. However, stocks of life insurance companies and mutual funds have been excluded in the sampling of this study as their characteristics are not like other securities of the capital market.

3.3 Portfolio formation
The portfolio formation mechanism follows closely Fama and French (1992). In order to form value and growth stocks portfolio, the stocks have been divided into two deciles, i.e. 10 % groups classified depending on the level of their ratios. The lowest decile, is the group comprising stocks with low P/E and P/B ratios is selected as value stocks. On the other hand, the highest decile, is the group comprising stocks with high P/E and P/B ratios is selected as growth stocks. For the price/earnings ratio and price/book value ratio, only positive ratios have been used to classify stocks into decile portfolios. The stocks with negative ratios (negative P/E ratios and negative P/B ratios) are excluded because negative ratios cannot be interpreted in terms of expected growth rates (Lakonishok et.al. 1994). Stocks in each portfolio are equally weighted and this kind of portfolio construction has been done for each year similarly during the sample period.

3.4 Returns
To calculate returns for value and growth portfolio, total annual return for each stock is calculated by dividing the capital gain/loss with the initial purchase price and then adding the dividend paid during the sample period. The returns of each stock of the portfolio are summed and then divided by the

number of stocks in each portfolio in order to get the mean annual portfolio return. However, for comparison of value and growth portfolio for longer holding period, one to five year- holding period returns have been calculated.

4. Results and Discussion
4.1 Performance of Value and Growth Stocks: Returns of Stocks

Table 1 presents mean annual returns (in percent) for value stocks portfolio and growth stocks portfolio sorted by Price -to – Earnings ratio and Price -to - Book value ratio for different years. Stocks with low ratios are value portfolio and stocks with high ratios are growth portfolio. The spread in mean annual returns between value and growth portfolio is value premium. Significance in differences in mean returns is tested using the t- statistic.

Table 1
Mean annual returns for value and growth portfolios, 2000-2009 (Percent)

Year	Price / earnings ratio			Price / book value ratio		
	Low P/E (Value)	High P/E (Growth)	Value Premium (Spread between Value and Growth)	Low P/B (Value)	High P/B (Growth)	Value Premium (Spread between Value and Growth)
2000	59.21	9.42	49.79*	56.46	-5.68	62.1**
2001	36.73	3.76	32.97	23.26	-6.18	29.44
2002	4.54	18.37	-13.83	59.88	4.02	55.86 *
2003	28.75	-10.73	39.48*	-29.21	3.08	-32.29**
2004	96.31	14.47	81.84**	-11.73	51.17	-62.9**
2005	-14.5	-15.4	0.9	1.23	-25.09	26.32*
2006	31.28	7.61	23.67	71.83	-12.04	83.87**
2007	106.86	78.41	28.45	23.70	88.16	-64.46**
2008	49.68	47.92	1.76	72.23	1.89	70.34**
2009	174.83	146.55	28.28	182.69	62.47	120.22**
Period average	57.37	30.04	27.33	45.03	16.18	28.85

** Significant at the1% level (1- tailed).
* Significant at the 5% level (1- tailed).

Portfolio sorted by P/E ratio

The mean annual return for value stocks portfolios and growth stocks portfolios based on P/E ratio is 57.37 percent and 30.04 percent respectively. The mean annual value premium for P/E sorted portfolios is 27.33 percent points. The P/E sorted portfolio witnessed positive annual value premium for nine years and negative annual value premium for only one year during the sample period. The positive annual value premiums in 2000, 2003 and 2004 are statistically significant and the only negative annual value premium in 2002 is not statistically significant. Returns of value and growth stocks portfolios are plotted in figure 1 (based on P/E ratio). Returns for all the value stocks portfolios are positive during the sample period except for 2005. The highest and

Figure 1
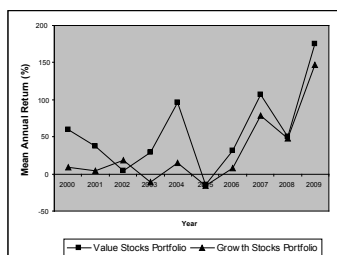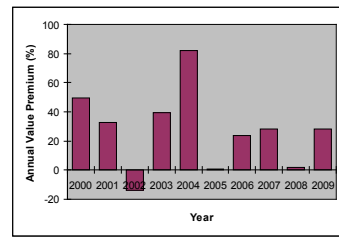Mean annual returns of value and growth portfolios based on P/E ratio, 2000-2009

Figure 2
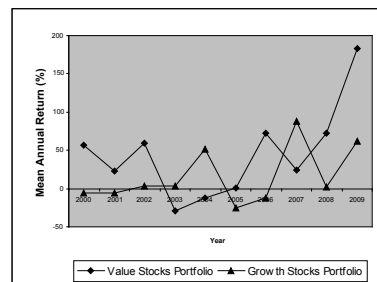Annual value premiums based on P/E ratio, 2000-2009

lowest return for both the value and growth stocks portfolios are observed in 2009 and in 2005 respectively. Figure 2 exhibits the annual value premium for P/E sorted portfolios. The portfolio of 2004 and the portfolio of 2005 provided the highest and lowest positive value premium respectively.

Portfolio sorted by P/B ratio

The mean annual return for value stocks portfolios and growth stocks portfolios based on P/B ratio is 45.03 percent and 16.18 percent respectively. The mean annual value premium for P/B sorted portfolios is 28.85 percent points. The P/B sorted portfolio witnessed positive annual value premiums for seven years and negative annual value premiums for three years during the sample period. All the positive and negative annual value premiums are statistically significant except the positive annual value premium in 2001. Significant negative annual value premiums for three years indicate that the value portfolio does not outperform the growth portfolio each and every year between 2000 and 2009 for P/B sorted portfolio. Returns of value and growth stocks portfolios are plotted in figure 3 (based on P/B ratio).

Figure 3
Mean annual returns of value and growth portfolios based on P/B ratio, 2000-2009

The Figure exhibits that return for all the value stocks portfolios are positive during the sample period except for 2003 and 2004. The highest and lowest return for the value stocks portfolio are observed in 2009 and in 2003 respectively. On the other hand, the highest and lowest return for the growth stocks portfolios is observed in 2007 and in 2005 respectively. Figure 4 exhibits the annual value premium for P/B sorted portfolios. The highest and lowest positive value premium exist for the portfolio of 2009 and the portfolio of 2005 respectively. The highest and lowest negative value premiums exhibit for the portfolio of 2007, and 2003 respectively.

Figure 4
Annual value premiums based on P/B ratio, 2000-2009
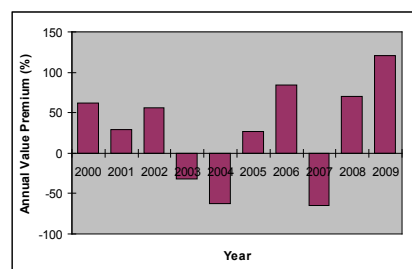
However, the results indicate that a P/E ratio based search process appears to do a better job of identifying value stocks and arriving at more consistent and sizable value premiums than does a search process based on P/B ratio in the Dhaka Stock Exchange during the sample period. Finally, based on the selection criteria of P/E ratio and P/B ratio, value stocks outperform growth stocks in the Dhaka Stock Exchange during the sample period.

4.2 Long term buy-and-hold returns for the same value and the same growth portfolio: One to five- year holding period returns

A long-term horizon, assuming a buy-and-hold strategy is an important part to be examined and compare the long-term performance of value and growth stocks portfolio. A number of researchers (Lakonishok et al.1994, Beneda 2003) have studied the performance of value and growth stocks using long-term buy-and-hold strategy to measure their long-term performance. However, in this section, one to five-year holding period returns for the same value and the same growth portfolio have been analysed. Portfolios are formed on fixed style basis and the

Table 2
One to five- year holding period returns for value and growth portfolio (Percent)

Holding Period (Year after portfolio formation)	Price/earnings ratios			Price/book value ratios		
	Low P/E (Value)	High P/E (Growth)	Value Premium (Spread between Value and Growth))	Low (Value)	High (Growth)	Value Premium (Spread between Value and Growth)
1 Year	59.21	9.42	49.79*	56.46	-5.68	62.14*
2 Year	187.83	-6.87	194.71**	118.11	-7.4	125.51*
3 Year	194.16	3.23	190.93**	122.1	1.42	120.68**
4 Year	216.28	-1.31	217.59**	123.26	13.28	109.99*
5 Year	770.96	80.98	689.98**	451.27	56.34	394.92

** Significant at the 1% level (1- tailed).
* Significant at the 5% level (1- tailed).

initial two portfolios are held for 5 consecutive years to measure their long term holding performance. Table 2, reports one to five- year holding period returns for the value stocks portfolio and the growth stocks portfolio based on P/E ratio and P/B ratio. The value premium exists for consecutive all holding periods from one- year to 5-year based on both the P/E and the P/B ratios.

Figure 5
One to five- year holding period returns for value and growth portfolio based on P/E ratio
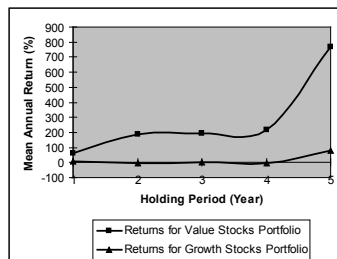
Portfolio sorted by P/E ratio
Based on P/E ratio, the value premium for each holding period is found to be statistically significant at the conventional level using t- tests. There is no negative value premium when the initial value and growth portfolio buy-and-hold for 5 consecutive years (2000-2004) based on P/E ratio. Figure 5 shows one to five- year holding period returns for the value and growth portfolio based on P/E ratio. The figure exhibits increasing trend in value premium over time for the holding

period of one to five-year.

Portfolio sorted by P/B ratio
Based on P/B ratio, the value premium for all the holding periods are statistically significant except the holding period of 5-year at the conventional level using t-tests (1-tailed). However, the largest value premium for holding periods of 5- year is not statistically significant. It happens because of high variability of returns for value portfolio than that of growth portfolio. The standard deviation of returns of 5- year holding period for value and growth portfolio are 1033% and 196% (not presented in the table) respectively. The extreme discrepancy of variability of returns of 5- year holding period for value and growth portfolio affects the result. There is no negative value premium when the initial value and growth portfolio buy-and-hold for five consecutive years (2000-2004) based on P/B ratios are considered. Figure 6 shows one to five- year holding period returns for the value and growth portfolio based on P/B ratio. The figure exhibits increasing trend in value premium over time for the holding period of one to five- year.

In fact, the value premium has increased substantially over longer holding period of value and growth portfolio. But the magnitude of value premium of P/E sorted portfolio is larger than the corresponding P/B sorted portfolio for all cases except for the holding period of 1- year. For long term holding of the same value and the same growth portfolio, the P/E sorted portfolio does better job for fairly and consistent value premium than the corresponding P/B sorted portfolio.

It is quite clear that, based on both the selection criteria, value stocks portfolio outperforms growth stocks portfolio for one to five- year holding period. The long-term performance of value portfolio is superior to that of growth portfolio. It may happens for the convergence of markets towards fundamental values in the long run. Thus for a long-term buy-and-hold strategy value investing may be an appropriate style of investment in the DSE based on both the P/E and the P/B ratios. This finding is consistent with the study of Lakonishok et al. (1994) and Beneda (2003). They confirm that returns of 5- year holding period of value portfolio exceeded those

Figure 6
One to five- year holding period returns for value and growth portfolio based on P/B ratio
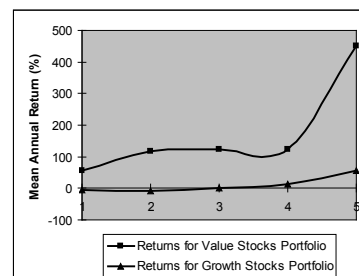
of growth portfolio. Finally, the value stocks outperform growth stocks on DSE and the result is consistent with those of other researchers such as the latest findings of Athanassakos (2009).

5.Conclusion
The purpose of this paper was to provide further evidence on the value premium by carrying out an sample test using DSE data for the period 2000– 2009 and employing a search process that involved both P/E and P/BV ratios. The study documented that value stocks outperforms growth stocks in terms of mean annual returns and longer holding period returns. The consistently strong value premium has been identified over this sample period. However, the results presented in the study are not above limitations. The stocks of mutual fund and life Insurance company are not considered in this study.

REFERENCE Arshanapalli, B., and Nelson, W.B., 2007, "Small Cap and Value Investing Offer both High Returns and a Hedge", The Journal of Wealth Management, Vol. 9, No. 4. (Spring): 44-50 | Athanassakos, G., 2009, "Value vs. Growth Stock Returns and the Value Premium: The Canadian Experience 1985-2005", Canadian Journal of Administrative Studies 26 (2), pp. 109-129. | Basu, S., 1977, "Investment Performance of Common Stocks in Relation to Their Price-Earning Ratios: A Test of the Efficient Market Hypothesis", Journal of Finance, 32 (3, June), 663-682. | Bauman, W. Scott., 1989, "Investment Research Analysis in an Emerging Market: Singapore and Malaysia", Financial Analysts Journal, vol.45, no.6 | Bauman, W. Scott, and James M. Johnson., 1996, "Investment Research Information in Europe", Journal of Investing, vol.5, no.2 (summer): 21-35. | Beneda Nancy, 2003, "Growth Stocks Outperform Value Stocks Over Long Term", Academy of Accounting and Financial Studies Journal, Vol. 7, No. 2, | Fama, Eugene F., and Kenneth R. French, 1992, "the Cross-Section of Expected Returns". Journal of Finance, 47 (2, June), 427-465. | Graham, B., and D. Dodd, 1934, "Security Analysis", McGraw-Hill, New York. | Lakonishok, J., Shleifer, A., and Vishny, R.W., 1994, "Contrarian Investment, Extrapolation and Risk", Journal of Finance 49, 1541–1578. | Phalippou, Ludovic, 2008, "Where Is the Value Premium?" Financial Analysis Journal Volume 64. Number 2, March/April, 41-48.