GLOBAL JOURNAL OF COMMERCE & MANAGEMENT PERSPECTIVE
(Published By: Global Institute for Research & Education)
www.gifre.org

Price to Book Value Ratio and Financial Statement Variables *(An Empirical Study of Companies Quoted At Nairobi Securities Exchange, Kenya)*

[1]Kenneth Marangu & [2]Ambrose Jagongo (PhD)
[1*]Corresponding Author - PhD (Finance) Fellow, School of Business, Kenyatta University, Kenya
[2] *Senior Lecturer, Accounting and Finance, School of Business, Kenyatta University, Kenya

Abstract

This study set out to establish the relationship between price to book value ratio and the following financial statement variables: dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax for companies quoted at the Nairobi Securities Exchange (NSE). This is because not much is known about the factors that impact on the price to book value ratio since most of the studies on this ratio have been carried out in developed capital markets and their applicability in developing capital markets such as the NSE has not been empirically tested. Companies that comprise the NSE 20 share index were used to predict the price to book value ratio. The data collected was summarized and multiple linear regression analysis was used to estimate the price to book value ratios. Price to book value ratio was the dependent variable and proxies for dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax were the independent variables. This study concluded that there was a statistically significant relationship between price to book value ratio and the following financial statement variables: return on total assets, return on equity, return per share and dividend per share at the NSE, Kenya. In addition, there was no statistically significant relationship between price to book value ratio and the following financial statement variables: dividend payout ratio and growth rate in earnings after tax at the NSE, Kenya. The best predictor variables of the price to book value ratio were return on total assets, return on equity and dividend per share. This study also concluded that return on total assets, return on equity and return per share all had a positive relationship (positively affected) the price to book value ratio while dividend per share had a negative relationship (negatively affected) the price to book value ratio.

Key words: Price to book value ratio, financial statement variables, dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax.

1 Background to the Study

Financial analysis seeks to identify a company's financial strengths, weaknesses and to provide the essential foundation for decision making and planning (Aimling, 1978). In financial analysis, a ratio is used as a benchmark for evaluating a company's past, present and anticipated future financial performance and condition. The absolute accounting figures reported in financial statements do not provide meaningful information on the financial performance and financial condition of a company but only convey meaning when they are related to some other relevant financial information (Walsh, 1996). Investors value assets based on the earnings that they anticipate from those investments and they have expectations about the value of their investment which enables them to make decisions on whether to buy, sell or hold particular assets. The main objective of investors is to maximize their returns while minimizing risk (Reilly & Brown, 1997). Ordinary shares are a very common form of investment that is used by very many investors worldwide. Ordinary shares are a popular investment because they offer investors the opportunity to tailor their investment programs to meet individual needs and preferences. Given the size and the diversity of the capital markets, it is prudent and reasonable to assume that regardless the investment objectives of investors, ordinary shares fit the bill. For investors living off their investment holdings, ordinary shares provide an opportunity of earning a steady stream of current income from the dividends paid out by companies (Archer & Racette, 1993).

For investors less concerned about current income, ordinary shares serve as a basis for long term accumulation of wealth. When this strategy is implemented, shares are used like a savings account. According to Gitman and Joehnk (2002) investors buy shares for the long term as a means of earning dividends and realizing capital gains. Investors recognize that shares have a tendency to increase or decrease in price over time and hence they require a screening mechanism to assist them to position themselves to take advantage of this phenomenon. When fund managers and investors are seeking to invest funds, they look for those shares that have superior investment performance. They can screen these shares on the basis of financial statement variables such as price to book value ratio, price earnings ratio, dividend yield, market capitalization and earnings momentum (Senchack & Martin, 1987). According to Pandey (2000) of these financial statement variables, the price to book value ratio is the most common and widely used by investment advisors, fund managers and investors to determine the value of ordinary shares.

The market value of an asset reflects its expected earning power of cash flows. Since the book value of an asset reflects its original cost, it might differ significantly from the market value if the earning power of the asset has increased or decreased significantly since its acquisition. Investment advisors, fund managers and investors employ a variety of strategies in selecting shares such as value shares, growth shares, price momentum, price strength and bottom fishing. These strategies are a set of rules and procedures that are designed to guide the selection of an investment portfolio and they have been successfully implemented across various capital markets.

All these investment strategies use the price to book value ratio as a key indicator. Investment advisors, fund managers and investors spend a lot of time identifying mis priced shares because fund managers and investors prefer to buy the shares at a fraction of their worth and wait for the capital market to fully recognize the hidden value. According to Damodaran (2006) a value share is one that tends to trade at a lower price relative to its fundamentals (dividends, earnings and sales) and is thus considered as being undervalued by a value investor. Common characteristics of undervalued shares include a low price to book value ratio and low price to earnings ratio. A value investor believes that the capital market is not always efficient and that it is possible to identify companies that are trading for less than their intrinsic value (Damodaran, 2006).

Price to book value ratio which captures the relationship between the market value of share capital and its balance sheet value is very popular among investment advisors, fund managers and investors. The ratio provides the final and perhaps the most thorough assessment by the capital market of a company's overall status (Walsh, 1996). The ratio summarizes the investor's point of view with regard to the company, management, profitability, liquidity and future prospects (Reilly & Brown, 1997). Price to book value ratio greatly attracts the attention of investment advisors, fund managers and investors because shares selling at below the book value are generally considered as being undervalued while those selling for above book value are considered as being overvalued. For this preposition to hold, this requires that shares with low price to book value ratios should outperform those with high price to book value ratios. While some investors have used low price to book value ratio as an investment screen to identify undervalued shares, other investors combine price to book value ratio with its fundamentals to make the same decision. However, what most investment advisors, fund managers and investors know is how to calculate the price to book value ratio but the calculations do not identify the factors that drive or affect this ratio.

1.1 Theoretical Literature Review

Price to book value ratio is a valuation ratio that is used by investment advisors, fund managers and investors to compare a company's market value (market capitalization) to its book value (shareholders' equity). The price to book value ratio which is expressed as a multiple (how many times a company's share is trading per share compared to the company's book value per share) is an indication of how much shareholders are paying for the net assets of a company. This study is underpinned by the Dividend Discount Model (DDM) which is a method of valuing a company's share price based on the theory that its share is worth the sum of all of its future dividend payments when they are discounted back to their present value. DDM is used to value shares based on the net present value of the future dividends. The model most widely used in the field of finance is referred to as the Gordon model. The Gordon model computes the value of a share such that the sum of its dividend yield (income) plus its growth (capital gains) equals to the investor's total required rate of return (Damodaran 2006). There are two basic forms of the model namely the stable model and the multistage model.

Damodaran (2006) states that in the stable model, the value of a share is equal to the expected annual dividend per share (which is expected to grow at a constant rate) divided by the cost of equity. In the multistage growth model, dividends are not expected to grow at a constant rate and thus the investor must evaluate each year's dividends separately, incorporating each year's expected dividend growth rate. According to Damodaran (2006), the multistage model assumes that dividend growth eventually becomes constant at some time in the future. The Gordon model allows for the calculation of the value of a share exclusive of current market conditions and this allows investors to make equitable comparisons among companies in different industries. Consequently, the model is commonly used in equity analysis and business valuation.

1.2 Empirical Literature Review

Louis, Hamao & Josef (1996) related the cross sectional differences in share returns of Japanese companies to four variables namely price to book value ratio, earnings yield, size, and cash flow. Their analysis was conducted at the portfolio level and applied the Seemingly Unrelated Regression (SUR) model to adjust simultaneously for portfolio risk. Their findings revealed a significant cross sectional relationship between the four financial variables that they considered and expected returns.

Vladmir (1999) analyzed the relationship between price to book value, size and share returns for non financial companies and concluded that the relationship between price to book value and share returns is similar for both financial and non financial companies. However, the study was not able to conclude whether size had the same effect on returns of financial and non financial companies. Lev (2000) argues that price to book value ratio is a poor measure of a company's net assets. He extended the argument by some researchers that the price to book value ratio had no place in modern investments and portfolio management. Beard (2001) used the low price book value strategy between 1986 and 2000 using twelve portfolios and found out that shares with a low price to book value ratio outperformed the market index. James (2001) examined the claim that price to book value ratio no longer contains information that can be used to identify value shares. He compared the price to book value ratio to other measures that are mentioned as alternatives and his findings indicated that ranking companies on the basis of the price to book value ratio was a valid way of identifying value shares. Constantinidis (2004) examined the behaviour of share prices in relation to price to book value, size and profitability. Their findings revealed a significant relationship between expected returns and price to book value, size and profitability.

1.3 Statement of the Problem

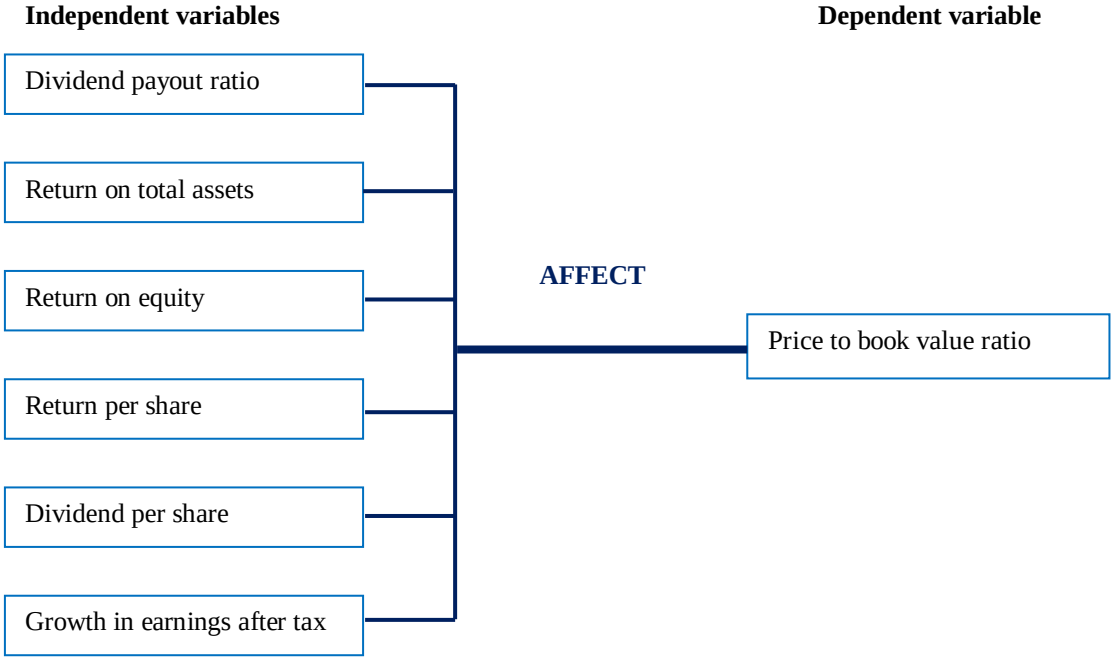
Price to book value ratio is a widely cited ratio by investment advisors, fund managers and investors in Kenya. The reasonable assumption is that these three groups use the ratio in selecting shares to invest in. Although several studies have established a relationship between low price book value and excess returns, low price to book value ratios could be an indicative measure of risk since companies whose shares trade at below book value have a high likelihood of being in financial distress, are likely to be in trouble and are likely to be liquidated. However, for value investors, price to book value ratio remains a tried and tested methodology for identifying low price shares that the capital market has neglected.

Low price to book value ratio criterion has been used by many investment advisors, fund managers and investors as an investment screen. Graham (2001) lists price being less than two thirds of book value as one of the criteria used to select shares. For this reason, the determinants of price to book value ratio will always elicit great attention from investment advisors, fund managers and investors. Most studies on price to book value ratio have been carried out in developed capital markets and their applicability in developing markets such as the NSE have not been empirically tested.

Castagnetti & Rossi (2006) found out that even though the empirical analysis of the USA capital market was an obvious point of reference, the European capital markets were characterized by marked differences and they provided empirical evidence that the factors that were supposed to drive the American capital market were not very influential in the European capital markets. Therefore, developing capital markets such as the NSE have different characteristics from developed capital markets in terms of types and classes of assets, liquidity, size, activity, risks and volatility of returns. Not much is known about the factors that impact on the price to book value ratio at the NSE since there is no systematically documented evidence linking price to book value ratio and financial statement variables at the NSE. For these reasons, this study therefore seeks to establish the factors that drive the price to book value ratio at the NSE. The objective of this study was to establish the relationship between price to book value ratio and the following financial statement variables: dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax for companies quoted at the NSE.

1.4 Conceptual Framework

In this study, the relationship between the independent variables (dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate in earnings after tax) and the dependent variable (price to book value ratio) is graphically represented as follows: These variables were measured through ratio analysis.



2 Research Design and Methodology

This study adopted an explanatory non experimental research design to establish the relationship between price to book value ratio and the following financial statement variables: dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax for companies quoted at the NSE. Explanatory research seeks to establish a causal relationship between variables (Saunders, 2009 & Robson, 2002). A non experimental research is a systematic empirical inquiry in which a researcher does not have direct control of independent variables because their manifestations have already occurred (Kerlinger & Lee, 2000). An explanatory non experimental research design is appropriate in studies where a researcher is attempting to explain how the phenomenon operates by identifying the underlying factors that produce change in it such that there is no manipulation of the independent variable (Kerlinger & Lee, 2000). This study was therefore explanatory and non experimental as it was seeking to establish the relationship between price to book value ratio and dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax. The researcher did not manipulate or alter the independent variables since their manifestations had already occurred.

2.1 Empirical Model

In order to establish the relationship between price to book value ratio and dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax for companies quoted at the NSE, the study employed multiple linear regression analysis. The general empirical model used in this study is as follows:

$PBV = \beta_0 + \beta_1 DPR + \beta_2 ROTA + \beta_3 ROE + \beta_4 RPS + \beta_5 DPS + \beta_6 GEAT$

Where

PBV = Price to book value ratio

β_0 = constant coefficient

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 = coefficients of the independent variables
Dividend Payout Ratio (DPR), Return on Total Assets (ROTA), Return on Equity (ROE), Return per Share (RPS), Dividend per Share (DPS) and Growth Rate in Earnings after Tax (GEAT) = individual independent variables.

2.2 Operationalisation of the Variables

Table 1 provides a summary of the dependent and independent variables and the measurements that were used to estimate these variables.

Table 1: Operationalisation of the variables

Category	Variable	Definition	Measurement
Dependent variable	Price to book value ratio	Ratio of a share's market value to book value	Market capitalization/net assets
Independent variable	Dividend payout ratio	Percentage of earnings paid to shareholders	Dividends/Earnings after tax
Independent variable	Return on total assets	Profitability of a company relative to its total assets	Earnings after tax/total assets
Independent variable	Return on equity	Profitability of a company relative to its equity	Earnings after tax/equity
Independent variable	Return per share	Portion of company profit earned by each share	Earnings after tax/outstanding common shares
Independent variable	Dividend per share	Portion of company profit paid for each share held	Dividends/outstanding common shares
Independent variable	Growth in earnings after tax	Positive change in company after tax profitability	(Earnings after tax_2/Earnings after tax_1) - 1

Source: Researcher

2.3Data Sources and Collection Procedure

The target population of the study comprised of all the companies listed at the NSE. However, if any company reported a negative price to book value ratio it was eliminated from the total population but none of the companies recorded a negative price to book value ratio during the period of the study. The sample that was selected comprised of all the quoted companies that constitute the NSE 20 share price index. The NSE 20 share price index is a market index that comprises of companies whose shares are most active at the NSE because they trade reasonably high volumes (high turnover) on a very regular basis when compared to the entire population of companies listed at the NSE. This study used secondary data obtained from the NSE and audited financial statements of listed companies which were captured in the form of weekly market reports and annual financial reports during the thirteen years covered in this study. To come up with valid empirical evidence on the factors that drive the price to book value ratio, the following variables were obtained: dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax.

2.4Data Analysis

The data obtained was analyzed using inferential statistics including multiple regression analysis and analysis of variance. Multiple linear regression analysis was aided by the Statistical Package for Social Sciences (SPSS). After extracting data from the financial statements contained in the annual reports, a Microsoft Excel spreadsheet was used to compute the relevant ratios for each of the companies. The data was formatted and thereafter imported to SPSS from the Microsoft Excel spreadsheet. The imported data was summarized and multiple linear regression analysis was used to estimate the price to book value ratio. The companies that comprise the NSE 20 share index were used to predict the price to book value ratio with the independent variables being dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax.

To evaluate the explanatory power of the regression model developed, an analysis of variance was performed to test whether any of the independent variables had a relationship with the dependent variable using the following hypothesis:
H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$
H_1: At least one β is not equal to zero

If the null hypothesis is not rejected, then there is no linear relationship between price to book value ratio and any of the independent variables. If the null hypothesis is rejected, then at least one of the independent variables is linearly related to price to book value ratio.

To test for explanatory power of the regression model, a computed F value was compared to a critical F value read from the F distribution table at a desired confidence level of 90 percent or the p value of significance derived from the computer software. The computed F value was calculated as follows: Computed F value = mean sum of squares/mean sum of error terms. To test for the significance of the individual independent variables, each coefficient was tested individually to determine which one (s) are significant. This procedure used a t distribution and tested the following hypothesis:

H_0: $\beta_j = 0$
H_1: $\beta_j \neq 0$

If the null hypothesis is not rejected, then there is no linear relationship between price to book value ratio and the individual independent variable. If the null hypothesis is rejected, then the individual independent variable is linearly related to price to book value ratio.

3 Results and Discussion

3.1 Price to book value ratio

Table 2 provides a summary of the price to book value ratios over the period of the study:

Table 2: Price to book value ratios

Year	Mean	Median	Standard Deviation
1991	2.48	0.74	4.78
1992	2.17	0.95	3.86
1993	4.59	1.28	10.29
1994	4.50	2.98	5.17
1995	3.34	1.71	5.77
1996	2.24	1.30	3.62
1997	2.14	1.17	2.92
1998	2.48	1.27	4.28
1999	2.99	1.38	5.49
2000	1.99	1.23	2.24
2001	1.31	0.82	1.37
2002	1.98	0.82	2.65
2003	3.87	2.54	4.78
Average	**2.78**	**1.40**	**4.40**
Standard Deviation	**1.02**	**0.67**	**2.21**

Source: Study data

During the period of the study, the mean price to book value ratio ranged between 1.98 and 4.59 while the median price to book value ratio ranged between 0.74 and 2.98. These results compared favourably with similar ratios obtained in developed capital markets such as USA, UK and Japan that recoded average mean ratios of 2.85, 3.10 and 2.8 respectively. On the basis of the price to book value ratio, the sample data implied that shareholder investments had increased in value terms. It is also evident that shareholder value was at its lowest during the years 2000, 2001 and 2002 since seventy five observations had a value of below 2.5. The years 1991, 1992, 2001 and 2002 were the worst for the NSE because the price to book value ratio exhibited a median of below 1.0 which implied that the value of shareholder investments had diminished and the shares were trading at a price that was below the book value. During the years 1991, 1992, 2001 and 2002, it can be inferred that investors believed that future company profits were not sufficient to justify the level of their investment in the companies. However, during the similar period, companies such Barclays Bank, BOC Kenya, Standard Chartered Bank, Total Kenya and Firestone East Africa had impressive growth prospects as indicated by high price to book value ratios.

3.2 Regression Model

Table 3 provides the SPSS multiple linear regression results:

Table 3: Linear regression results

Regression Statistics					
R Squared	0.751				
Adjusted R Squared	0.726				
Standard Error	4.444				
Observations	260				
ANOVA	**DF**	**SS**	**MS**	**F Value**	**P Value**
Regression	6	725.26	120.88	6.12	0.000
Residual	207	4088.73	19.75		
Total	213	4813.99			
	Coefficient	**SE coefficient**	**T value**	**P value**	
Constant	1.439	0.549	2.620	0.009	
Dividend Payout Ratio (DPR)	0.005	0.007	0.630	0.526	
Return on Total Assets (ROTA)	0.083	0.036	2.290	0.023	
Return on Equity (ROE)	0.042	0.013	3.300	0.001	
Return per Share (RPS)	0.004	0.002	1.650	0.100	
Dividend per Share (DPS)	-0.300	0.127	-2.360	0.019	
Growth rate in earnings after tax (GEAT)	-0.001	0.002	-0.670	0.504	

Source: Study data

From the SPSS linear regression output, the regression line was estimated as follows:

PBV = 1.44 + 0.005 DPR + 0.083 (ROTA) + 0.042 (ROE) + 0.004 (RPS) – 0.3 (DPS) – 0.001 (GEAT)

The objective of this study was to establish the relationship between price to book value ratio and the following financial statement variables: dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax for companies quoted at the NSE. To achieve this objective, two sets of tests were carried out; an F test for testing the overall significance of the regression model and a t test for testing the significance of the individual independent variables in the regression model.

To test for the overall significance of the regression model, the F test was carried out to assess whether there was a linear relationship between the dependent variable (price to book value ratio) and all the independent variables when they were considered together (dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax). An Analysis of Variance (ANOVA) was performed to test whether any of the independent variables had a relationship with the dependent variable. The results of the ANOVA are as shown in table 4 (ANOVA results):

Table 4: ANOVA results

Source	DF	SS	MS	F value	P value
Regression	6	725.26	120.88	6.12	0.000
Residual	207	4088.73	19.75		
Total	213	4813.99			

Source: Study data

The F test tested the following hypothesis:

H_0: There is no statistically significant relationship between price to book value ratio and financial statement variables (DPR, ROTA, ROE, RPS, DPS and GEAT) when they are considered together.

H_1: There is a statistically significant relationship between price to book value ratio and financial statement variables (DPR, ROTA, ROE, RPS, DPS and GEAT) when they are considered together.

From the ANOVA table, the computed F value of 6.12 is greater than the p value of 0.000 and thus the null hypothesis was rejected. Therefore, this study found a statistically significant relationship between price to book value ratio and the following financial statement variables when they were considered together: dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax.

To test for the significance of the independent variables, each coefficient of the independent variables was tested individually using the t test to assess whether there was a linear relationship between the dependent variable (price to book value ratio) and each independent variable (dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax). The results from the SPSS regression output with regard to the independent variables are as shown in table 5:

Table 5: t test results

Independent variable	Coefficient	SE coefficient	T value	P value
Constant	1.439	0.549	2.620	0.009
Dividend Payout Ratio (DPR)	0.005	0.007	0.630	0.526
Return on Total Assets (ROTA)	0.083	0.036	2.290	0.023
Return on Equity (ROE)	0.042	0.013	3.300	0.001
Return per Share (RPS)	0.004	0.002	1.650	0.100
Dividend per Share (DPS)	-0.300	0.127	-2.360	0.019
Growth rate in earnings after tax (GEAT)	-0.001	0.002	-0.670	0.504

Source: Study data

The t test tested the following hypothesis:

H_0: There is no statistically significant relationship between price to book value ratio and each financial statement variable.

H_1: There is a statistically significant relationship between price to book value ratio and each financial statement variable.

The p values of return on total assets, return on equity, and return per share and dividend per share are 0.023, 0.001, 0.100 and 0.0019 respectively. The p values of these independent variables are not greater than the critical value of 0.10 and thus the null hypothesis with regard to these independent variables was rejected. Therefore, this study found a statistically significant relationship between price to book value ratio and the following financial statement variables: return on total assets, return on equity, return per share and dividend per share. The p values of dividend payout ratio and growth rate in earnings after tax are 0.526 and 0.504 respectively. The p values of these independent variables are greater that the critical value of 0.10 and thus the null hypothesis with regard to these independent variables was not rejected. Therefore, this study found no statistically significant relationship between price to book value ratio and the following financial statement variables: dividend payout ratio and growth rate in earnings after tax.

4 Conclusion and Recommendations

4.1 Conclusion

The general objective of this study was to investigate the relationship between price to book value ratio and the following financial statement variables: dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax for companies quoted at the NSE. The first specific objective was to investigate the relationship between price to book value ratio and dividend payout ratio. This study did not establish a statistically significant relationship between price to book value ratio and dividend payout ratio and thus concluded that

was no evidence that dividend payout ratio affected price to book value ratio at the NSE, Kenya. The second specific objective was to investigate the relationship between price to book value ratio and return on total assets. This study established a statistically significant relationship between price to book value ratio and return on total assets and thus concluded that there was evidence that return on total assets affected price to book value ratio at the NSE, Kenya.

The third specific objective was to investigate the relationship between price to book value ratio and return on equity. This study established a statistically significant relationship between price to book value ratio and return on equity and thus concluded that there was evidence that return on equity affected price to book value ratio at the NSE, Kenya. The fourth specific objective was to investigate the relationship between price to book value ratio and return per share. This study established a statistically significant relationship between price to book value ratio and return per share and thus concluded that there was evidence that return per share affected price to book value ratio at the NSE, Kenya. The fifth objective was to investigate the relationship between price to book value ratio and dividend per share. This study established a statistically significant relationship between price to book value ratio and dividend per share and thus concluded that there was evidence that dividend per share affected price to book value ratio at the NSE, Kenya. The sixth objective was to investigate the relationship between price to book value ratio and growth rate of earnings after tax. This study did not establish a statistically significant relationship between price to book value ratio and growth rate of earnings after tax and thus concluded that was no evidence that growth rate of earnings after tax affected price to book value ratio at the NSE, Kenya.

This study contributes to financial literature by providing empirical evidence in a developing capital market on the relationship between the price to book value ratio and the following financial statement variables: dividend payout ratio, return on total assets, return on equity, return per share, dividend per share and growth rate of earnings after tax. This study concluded that there was a statistically significant relationship between price to book value ratio and return on total assets, return on equity, return per share and dividend per share at the NSE, Kenya. In addition, there was no statistically significant relationship between price to book value ratio and dividend payout ratio and growth rate in earnings after tax. The best predictor variables of the price to book value ratio were return on total assets, return on equity and dividend per share. This study also concluded that return on total assets, return on equity and return per share all had a positive relationship (positively affected) the price to book value ratio while dividend per share had a negative relationship (negatively affected) the price to book value ratio.

4.2 Recommendations

This study recommended that managers of companies should control return on total assets, return on equity, return per share and dividend per share if they planned to influence the price to book value ratio of their companies. For investment advisors, fund managers and investors, this study recommended that they keenly analyze the financial statements of NSE listed companies and continuously look out for any adverse movements in return on total assets, return on equity, return per share and dividend per share as this will adversely affect the price to book value ratio and thus the value of their investment.

5 References

Bali, R. & Kothari, S. P. (1989), Non Stationary expected returns: Implications for Tests of Market Efficiency and Serial Correlation in Returns, *Journal of Financial Economics*, 25, 51 - 74.

Bauman, W., Conover, C. M. & Miller, R. E. (1998). Growth versus Value and Large Cap versus Small Cap Stocks, *Financial Analysts Journal*, 28, 75 - 89.

Blume, M. & Stambaugh, R. F. (1983), Biases in Computed Returns: An Application to the Size Effect, *Journal of Financial Economics*, 12, 387 - 404.

Brigham, E. F. & Ehrhardt, M. C. (2004). *Financial Management: Theory and Practice*, 11th Edition, South Western College Publishers, New York.

Chan, L. K., Hamao, Y. & Josef, L. (1991). Fundamentals and Stock Returns in Japan *Journal of Finance*, 50, 1739 - 1789.

Fairfield, M. P. (1994). Price to Book Value and the Present Value of Future Dividends. *Journal of Financial Analysts*, 50, 21 - 23.

Fama, E. F. & French, K. R. (1992). The Cross Section of Expected Returns, *Journal of Finance, 47*, 427 - 465.

Fama, E. F. & French, K. R. (1993). Common Risk Factors in the Returns on Stocks and Bonds, *Journal of Financial Economics*, 33, 3 - 56.

Fama, E. F & French, K. R. (1995). Size and Book to Market Factors in Earnings and Returns. *Journal of Finance*, 50, 131 - 155.

Fama, E. F. & French, K. R. (1996). Multifactor Explanations of Asset Pricing Anomalies, *Journal of Finance*, 51, 55 - 87.

Gitman, L. J. (1997). *Principles of Managerial Finance*, 7th Edition, Harper Collins College Publishers, New York.

Kothari, S.P., Shanken, J. & Sloan, R. (1995). Another Look at the Cross Section of Expected Stock Returns. *Journal of Finance*, 50, 185 - 224.

Kothari, S.P., Shanken, J. & Sloan, R. (1997). Book to Market, Dividend Yield and Expected Market Returns: A Time Series Analysis. *Journal of Financial Economics*, 44, 169 - 203.

Moyer, R. C., Mc Guigan, J. R. & Kretlow, W. J. (2005). *Contemporary Financial Management*, 10th Edition, South Western College Publishers, New York.

Nelson, C. & Myung, K. (1993). Predictable Stock Returns: The Role of Small Sample Bias. *Journal of Finance*, 48, 641 - 661.

Pandey, I. (2005). *Financial Management*, 9th Edition, KAS Publishing House, New Delhi.

Pontiff, J. & Schall, L. (1998). Book to Market Ratios as Predictors of Market Returns. *Journal of Financial Economics*, 49, 14 - 160.

Saunders, M., Lewis, P. & Thornbill, A. (2009). *Research Methods for Business Students*, 5th Edition, Prentice Hall, Italy

Shefrin, H. & Statman, M. (1995), Making Sense of Beta, Size and Book to Market, *Journal* of *Portfolio Management*, 21, 26 - 34.

Statman, M. (1984). Growth Opportunities versus Growth Stocks, *Journal of Portfolio Management*, 10, 70 – 74.