Scholars Journal of Economics, Business and Management (SJEBM) **e-ISSN 2348-5302**
Abbreviated Key Title: Sch. J. Econ. Bus. Manag. **p-ISSN 2348-8875**

A Unit of Scholars Academic and Scientific Society, India
www.saspjournals.com

Relationship between Share Market Capitalization and Performance of Listed Firms at Nairobi Securities Exchange Limited, Kenya Relationship between Share Market

Edwin Koila[1*], Kibet Kiru[2], Dr. Joel K Koima[3]
[1,2]Faculty of Business Management and Economics, Kabarak University, Private Berg, Kabarak, Kenya
[3]Department of Mathematics and Computer Science, Kabarak University, Private Berg, Kabarak, Kenya

***Corresponding author**
Edwin Koila

Article History
Received: 23.10.2018
Accepted: 05.11.2018
Published: 30.11.2018

DOI:
10.36347/sjebm.2018.v05i11.001

Abstract: Market capitalization is important in projecting the size of an organization because it shows the organization's value. Even firms with high growth potential with less sales may still have high market capitalization. Market capitalization activities including stock turnover, changes in stock prices, stock return observably are stock market behavioral factors that influence investor's decision in particular firm. Whether these activities affect their Return on Equity when they invest is a research gap of interest. The main aim of the study therefore was to analyze effect of market capitalization on performance of the listed firms in Nairobi Securities Exchange. Specifically, the study analyzed the effect of stock turnover, changes in stock price and stock return on financial performance of the listed firms in Nairobi Securities Exchange. The study was based on Trading Cost Theory, Trading Quantity Theory, Efficient Market Hypothesis and Arbitrage Pricing Theory. The study adopted events study research design which tested variables the way they have behaved in time and space. The study targets 63 firms listed in different market segments of Nairobi Securities Exchange. The study collected secondary data from both the securities market and annual audited accounts reports covering 2007-2017. The study purposively took census of all the firms listed at the Nairobi Securities Exchange of which will not require sampling procedure. Data was analyzed using mean, standard deviation and panel data regression to establish relationship between the independent and dependent variables. The study established that using fixed effects model revealed that the stock turnover, changes in stock prices and market capitalization variables cannot be used to predict the outcome of return on equity within the listed firms in Nairobi Securities Exchange. Overall, although changes in stock prices had higher positive relationship comparatively, alongside other predictors, it was equally statistically insignificant to predict return on equity. On the other hand, using random effects model also revealed that the stock turnover, changes in stock prices and market capitalization variables cannot be used to predict the outcome of return on equity within the listed firms in Nairobi Securities Exchange. Overall, although changes in market capitalization had higher positive relationship comparatively, alongside other predictors, it was equally statistically insignificant to predict return on equity as a measure of financial performance.

Keywords: Financial Performance, Return on Asset, Share Market Capitalization, Securities, Capitalization, Exchange, Listed Firms, Securities Exchange.

INTRODUCTION

Stock market plays a fundamental part in raising capital for both private and government entities to support growth in their projects. Savers are attracted to buy stock based on the opportunities available for returns in terms of value increase and bonuses [1]. For predicting share prices there are different approaches [1]. Efficient capital market reflects all public and private information and quickly adjusts to new information in the market[2]. This means stock price at any one time reflects all the information of that stock. The effect of macro-economic variables such as exchange rate, inflation, oil prices and interest rates, the efficient market Hypothesis [3] indicate that competition among investors who maximize profit ensured all relevant macroeconomic variables information is reflected on daily stock prices [4].

Kumar [5] found out that market behavior influences investment decisions in Indian equity market which had an impact on stock trading volume. Stock performance is measured by the stock market index which indicated the direction of share price movement [6]. It measures quickly the overall direction of the market and is considered to be an accurate indicator of changes in the stocks. This implies that a stock market index ought to neither understate nor overstate the market position and should be not only precise, but also exact. The market index entails all listed companies which represent a significant portion of market capitalization and trade actively.

Market capitalization measures the returns on investment. Information on day-to-day stock price fluctuations is an indicator on the health of a publicly traded company. Wangechi [7] established that valuation methods used in NSE greatly influenced the market value of firms quoted on the NSE. Market capitalization activities including stock turnover, changes in stock prices, stock return observably are stock market behavioral factors that influence investors decision in a particular firm. Kenya recorded the highest volatility in 2000 with NSE posting a 21.1% instability in its history [8]. In 2008 through 2010, the NSE20 share index posted a variance of 5444 points on the higher side and 2800 points in the lower end [9]. In 2011, the Kenya shilling depreciated, immensely affecting the financial markets. The Shilling reached an all-time high of 107 against the US dollar. Thus, the day to day up and down shift in asset prices seen at the NSE has dragged with it ills that have resulted in a turbulent market for investors as prices dipped low [10]. The changing trend of share prices has always been of much interest of the capital markets authority in Kenya given their adverse effect on the market stability [9]. Whether these activities affect their Return on Equity when they invest is a research gap of interest to this study. Chhachhi & Davidson[11] categorized companies based on different levels of market capitalization. This has motivated this study that will analyze effect of market capitalization on financial performance of the listed firms in NSE. Out of the empirical studies reviewed, none in particular has analyzed effect of stock turnover, changes in stock prices, stock's return on listed firms' performance and further the moderating effect of interest rate on the relationship between market capitalization and firms' performance which is the interest of the study.

Objectives and Hypotheses of the Study

The set objectives of the study were; To establish the effect of stock turnover and performance of the listed firms in Nairobi Securities Exchange, Kenya; To establish effect of changes in stock prices and performance of the listed firms in Nairobi Securities Exchange, Kenya; To assess the effect of stock return and performance of the listed firms in Nairobi Securities Exchange. The study hypotheses that; **HO_1**: Stock turnover do not have any significant effect on performance of the listed firms in Nairobi Securities Exchange, Kenya; **HO_2**: Changes in stock prices do not have any significant effect on performance of the listed firms in Nairobi Securities Exchange, Kenya; **HO_3**: Stock Return do not have any significant effect on performance of the listed firms in Nairobi Securities Exchange, Kenya.

Conceptual Framework

The study tested the hypothesis using the following theories; trading cost theory, trading quantity theory, efficient market hypothesis and arbitrage pricing theory. Conceptually, the study hypothesized model identifying the concepts or variables under the study and their relationships. It is a scheme of concepts (variables), which the researcher will operationalize in order to achieve the set objectives. The purpose of the conceptual model is to help the researcher to relate the proposed relationships.

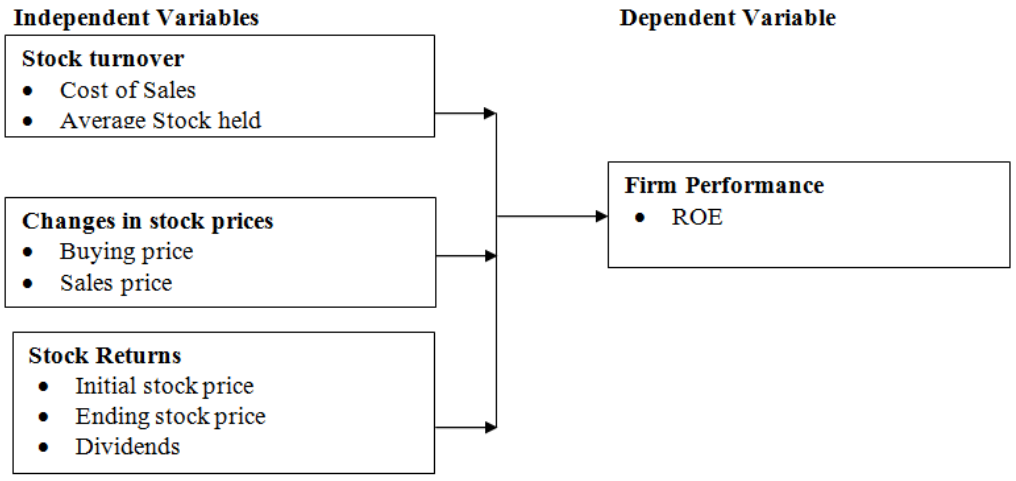

Fig-1: Effect of market capitalization on performance of listed firms at the NSE

Source: (Own Conceptualization, 2018)

The independent variables are; stock turnover, changes in stock prices and stock return. The dependent variable is performance measured using stock returns. The intervening variable is macroeconomic environment including interest rate. When the listed firms have improved stock turnover, with high changes in stock prices with improved stock return, then the firms performance improve measured in their Return on Equity (ROE).

Research Design

The study adopted an event study research design targeting the 63 listed firms at the NSE under 13 market segments. The study took a census of the 63 under the market segments listed firms at the NSE and therefore no need to carry out sampling. Data collection involved obtaining monthly secondary data on stock turnover, changes in stock prices and stock return, the 20 Share Index and the NASI Index from the NSE quarterly bulletins for the period 2007 to 2017. Stock turnover was arrived at by dividing the volume traded by shares issued. Changes in stock prices were calculated by adding opening price with closing price and dividing by two. Stock Return data was the difference between ending stock price and initial plus dividend paid divided by initial price plus dividend paid.

Data was analyzed using panel data regression model. Panel data analysis was used due to its ability to handle time series and cross sectional components. Equation $Y_{it} = \beta_1(ST)_{it} + \beta_2(CSP)_{it} + \beta_3(MC)_{it} + \alpha + \varepsilon$

Where;

Y= Return on Equity, α =constant, $\beta_1 \ldots\ldots \beta_3$ = parameter estimates

$(ST)_{it}$ = Stock Turnover *i* over year *t*

$(CSP)_{it}$ = Changes in Stock Prices *i* over year *t*

$(MC)_{it}$ = Market Capitalization *i* over year *t*

ε is the error of prediction, which is assumed to be normally distributed with a zero variance.

FINDINGS AND DISCUSSIONS

Random Effect Regression Results

In order to choose between fixed and random effects model for the model (ROA), the Hausman test was used. The null hypothesis of the Hausman test was that the random effects model was preferred to the fixed effects model. For ROE model, Hausman test reported a chi-square of -3.91 with a p-value of 0.517 implying that at 5 percent level, the chi-square value obtained was statistically insignificant. The researcher therefore failed to reject the null hypothesis that random effects model was preferred to fixed effect model for ROE as recommended by Greene (2012).

Table-1: Random Effects regression model

```
Random-effects GLS regression              Number of obs     =       143
Group variable: SegmentID                  Number of groups  =        13

R-sq:  within  = 0.0321                    Obs per group: min =        11
       between = 0.0208                                   avg =      11.0
       overall = 0.0245                                   max =        11

                                           Wald chi2(3)      =      3.81
corr(u_i, X)   = 0 (assumed)               Prob > chi2       =    0.2822

------------------------------------------------------------------------------
         ROE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     STurnover |   .0035039    .002649     1.32   0.186    -.0016881    .0086959
Changes_S_Price |  -.0040649   .0040647    -1.00   0.317    -.0120315    .0039017
 Capitalization |   17.08977    16.9506     1.01   0.313     -16.1328    50.31233
       _cons |   25.99687   22.20591     1.17   0.242    -17.52593    69.51966
-------------+----------------------------------------------------------------
      sigma_u |  7.2441458
      sigma_e |  26.129943
          rho |  .07137373   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Source: Published Audited Financial Statements (2007-2017)

The random effects model indicates that the combined effect of market capitalization on return on equity is statistically insignificant within the listed firms in NSE. The model's chi square value of 0.2822 is much greater than 0.05, the value of R squared 0.0321 implies that independent variables have a combined effect on return on equity by 3.1 % while the other 96.9% was affected by other factors other than market capitalization. It can therefore be concluded that the independent variables cannot be used to predict the outcome of return on equity within the listed firms in NSE.

From the findings of the model the stock turnover is inversely related with return on equity. Due to an increase in stock turnover it resulted in a decrease in return on equity by .0035039 units keeping changes in stock price and market capitalization constant. The relationship being statistically insignificant cannot be used to predict the outcome of return on equity. The relationship between changes in stock prices and return on equity is negatively related. An increase in changes in stock prices will result in a decrease in return on equity by -.0040649 units keeping other variables constant. This relationship is statistically insignificant with the p =0.317>0.05. Market capitalization had a positive insignificant relationship with return on equity. An increase on market capitalization will result in an increase in return on equity by 17.08977 units keeping other variables constant. This relationship is statistically insignificant with the p =0.313>0.05. Overall, although changes in market capitalization had higher positive relationship comparatively, alongside other predictors, it was equally statistically insignificant to predict return on equity as a measure of financial performance.

Hypotheses Test

HO_1: Stock turnover does not any have significant effect on performance of the listed firms in Nairobi Securities Exchange, Kenya. The study established inverse insignificant relationship of 0.0052388 and p=0.077>0.05 between stock turnover and performance of the listed firms in Nairobi Securities Exchange, therefore accepting the null hypothesis. This finding is supported by Ayako [16] who sought to analyze the effect of trading volume/activity in regards to whether it affects the futures prices. His main concern was to determine the level of power volumes traded could predict how future stock prices reacted. His research was on firms listed at NSE for a period of 5 years between 1998 and 2002. Using Anova tests for analysis, he found out that volumes traded was not significantly correlated trading to stock return of companies listed at NSE. He further contends that his findings are in line with Fama Random Walk theory which implies that a series of stock price changes at NSE does not have any memory although contradictory to Amihud and Mendelson theory that liquidity is significant to returns. The finding is further support by Koech [12] also did a study on the 57 companies listed in the NSE for a five year period from 2007 to 2011. He used a simple regression model to determine the relationship between liquidity and stock returns using turnover rate as his proxy and found out that there was a weak correlation between liquidity and stock returns which he concluded not to be statistically significant.

The second hypothesis **HO_2**: Changes in stock prices does not any have significant effect on performance of the listed firms in Nairobi Securities Exchange, Kenya. The study established inverse insignificant relationship of 0.014764 and p= 0.334 >0.05 between changes in stock prices and performance of the listed firms in Nairobi Securities Exchange, therefore accepting the null hypothesis. The finding is supported by Ngunjiri [13] who studied on the relationship between dividend payment policies and stock price volatility for the period 2004-2008. Secondary data was obtained from NSE of 40 companies and analyzed using regression analysis. He concluded that dividend payment policies have no impact on stock price volatility. Further, the finding is further supported by Thiong'o [14] investigated the relationship between dividend payment and stock prices for firms listed at NSE for the period 2006-2010. The study employed simple linear regression and came up with the findings that there exists a weak positive relationship between dividend payout ratio and stock prices. Other study that supported the finding Gatua [15] who used a panel of data from made up of a sample of firms from seven sectors listed on Nairobi securities exchange from 2008-2012. Also using a regression analysis, the findings revealed that there is no model to determine share prices. The study concluded firms selected variables are independents correlated to share prices, implying selected variables cannot be used to predict share prices movements.

The hypothesis **HO_3** Stock Return on Equity does not any have significant effect on performance of the listed firms in Nairobi Securities Exchange, Kenya. The study established positive but insignificant relationship of 26.52554 and p= 0.153 >0.05 between market capitalization and performance of the listed firms in Nairobi Securities Exchange, therefore accepting the null hypothesis. This finding is contrary to Kamunda [12] findings that carried out a study on the relation between market capitalization and stock market indices at the NSE. His study established that that there is a very strong positive correlation between market capitalization and NASI of 0.813629 (correlation coefficient) and a strong positive relationship between market capitalization and the NSE of 0.659423. On the other hand, correlation coefficient between NASI and the NSE 20 share index indicates a very strong positive correlation meaning that they move together in the same direction.NSE was found to be significant in explaining market capitalization while NASI was not. The

explanatory variable was found to explain 67.85% of the variation in the dependent variable. Jointly, all the variables were found to be significant as postulated by the F-statistic where about 43% of the repressor explain variations in the dependent variable [12].

REFERENCES

1. Ologunde AO, Elumilade DO, Asaolu TO. Stock Market Capitalisation and Interest Rate in Nigeria: A Time Series Analysis. Economic and Policy Review. 2007;13(2).
2. Landon MB, Leindecker S, Spong CY, Hauth JC, Bloom S, Varner MW, Moawad AH, Caritis SN, Harper M, Wapner RJ, Sorokin Y. The MFMU Cesarean Registry: factors affecting the success of trial of labor after previous cesarean delivery. American journal of obstetrics and gynecology. 2005 Sep 1;193(3):1016-23.
3. Fama EF, French KR. Permanent and temporary components of stock prices. Journal of political Economy. 1988 Apr 1;96(2):246-73.
4. Bajic VB, Seah SH, Chong A, Krishnan SP, Koh JL, Brusic V. Computer model for recognition of functional transcription start sites in RNA polymerase II promoters of vertebrates. Journal of Molecular Graphics and Modelling. 2003 Mar 1;21(5):323-32.
5. Kumar A. Determinants of Stock Trading Volume: Evidence from Indian Stock Markets. 2008
6. Chiu CM, Hsu MH, Wang ET. Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. Decision support systems. 2006 Dec 1;42(3):1872-88.
7. Wangechi GP. The relationship between firm valuation methods and market value for companies quoted at the NSE. Unpublished research Thesis, University of Nairobi. 2010 Nov.
8. Kalui FM. Determinants of stock price volatility. An empirical investigation of NSE. Unpublished MBA project, University of Nairobi, Kenya. 2004.
9. Aroni JM. Factors influencing stock prices for firms listed in the Nairobi Stock Exchange. International Journal of Business and Social Science. 2011 Nov 1;2(20).
10. Kirui E, Wawire NH, Onono PO. Macroeconomic variables, volatility and stock market returns: a case of Nairobi securities exchange, Kenya. International Journal of Economics and Finance. 2014 Jul 28;6(8):214.
11. Abdel-Malek A, Abdel-Malek A, Abrahamanian E, Abramsky S, Abu-Lughod JL, Acemoglu D, Robinson JA, Acharya A, Achcar G, Ademola OT, Bankole AS. Making sense of financialization. InMultipolar Globalization: Emerging Economies and Development 2018 Sep 11 (Vol. 2, No. 4, pp. 1-26). London: University of California Santa Barbara, Global studies MA Thesis.
12. Koech PA. Relationship between liquidity and return of stock at the Nairobi securities exchange. Unpublished MBA Thesis). University of Nairobi, Nairobi. 2012 Nov.
13. Ngunjiri MM. *The relationship between dividend payment policies and stock price volatility for companies quoted at the NSE* (Doctoral dissertation, University of Nairobi, Kenya).
14. Thiong'o JG. Relationship between dividend payment and share price for companies listed at NSE. Unpublished MBA Project, University of Nairobi, Kenya. 2011.
15. Gatua FK. Analysis of share price determinants at Nairobi securities exchange. Unpublished MBA Project of the University of Nairobi. 2013 Nov.
16. Abe M, Kobayashi Y, Yamamoto S, Daimon Y, Yamaguchi A, Ikeda Y, Ichinoki H, Notaguchi M, Goto K, Araki T. FD, a bZIP protein mediating signals from the floral pathway integrator FT at the shoot apex. Science. 2005 Aug 12;309(5737):1052-6.