Ratio analysis Indicators of Financial performance in the Nairobi Securities and Exchange Market. Case of Listed Companies in the Agricultural Sector

(Daniel Oigo & Zéman Zoltán)

Abstract— the current development of the securities and exchange market in Kenya recently has risen with the development of the financial market for derivatives which include swaps, options and futures market. This has seen an upward trend in the quest for investments in the stock markets. The listed companies in the Nairobi Securities and exchange market come broadly from the following sectors; Agricultural sector, Automobiles and Accessories, Commercial and Services, Construction and Allied, Energy and Petroleum, Investment, Telecommunication and Technology, Real Estate Investment Trust, Banking, Insurance, Manufacturing and Allied, Investment Services and the Exchange Traded Fund. Shares are traded from various companies categorized under the following industries. One of the main objectives of the firm is to maximize the shareholders wealth because they are the sole owners of the business. They have entrusted the firm with funds that need to generate a reward. Most of the time the shareholders end up losing their finances through making wrong investments decisions either because of lack of information on the best financial ratios that can be used to determine the financial health of a company. This study therefore sought to establish the best ratios that can be used to identify financial sound investments opportunities for investors.

Keywords— derivatives Market, Securities market, Listed Companies and Ratio Analysis

I. Introduction

The agricultural sector of Kenya plays a significant role in influencing the economy through its contributions in improving the stability and efficiency of allocating and utilizing of fund, several researchers have conducted studies to determining the best and efficient ratios that can be used to determine the financial health of companies. None of those ratios that were determined has been applied in the agricultural sector, yet it is one of the industries with many listed companies which trade in the Nairobi Securities and Exchange Market.

Every company firm is concerned with its profitability because Investors all over the world entrust or rather invest their money into a business with the aim of getting a return. The investments are managed by managers who are entrusted with the responsibility of maximizing the returns of such shareholders. It is therefore important for the managers to do everything to ensure that they maximize the shareholders wealth by minimizing costs.

Many investors have lost money through making ling investment. This has prompted to some scholars to have a different approach of study in using ratios to predict

bankruptcy of companies (Chava & Jarrow, 2014). The loss to investors is because of lack of information or rather the knowhow on how to use the available financial information to determine the future of the business. For instance, in Kenya many listed companies have collapsed with the shareholders losing a lot of money. Good example was the Uchumi supermarket and the Kenya Airways.

It is therefore important to classify companies according to their financial capability and performance as was done by Kaplan and Zingales (1997) who categorized companies based on their degree of financial constraint using both qualitative and quantitative information obtained from the financial reports of the companies under study.

The management of small and medium enterprises, private companies and listed companies as well has the responsibility of ensuring that the shareholders' interests are safeguarded and making sure that their investments are managed in a better way. This assurance of the prudential concept can be achieved through generating profits and ensuring efficient performance of the company.

Financial ratio analysis is a vital aspect in company performance since the profitability of an enterprise is directly affected by financial decisions of a company as was first studied by Modigliani and Miller (1958) that are regarded as academic giants in finance. The successful selection and use of appropriate financial ratio is one of the key elements of the firm's financial strategy. Hence, proper care and attention need to be given while such decision is taken.

Financial ratio analysis is a technique for determining the profitability and financial performance of the firms or companies using its past financial statement. The statements are usually available for public domain as required of the management. Every firm is concerned with profitability as a key to its financial and economic sustainability and for the welfare of investors and employees. Financial information is also important to the government so that they can be able to know the amount of tax to levy a company.

Competitors are also beneficially of the information as they may want to change their tact so that they may gain a competitive age against their rivals. So, as it can be seen is that the financial information is important to the different stakeholders involved in the financial market.

As such, it is the role of the company's management to avail the financial position in-terms of profit before and after tax to the equity shareholders and other users who are concerned with company's financial statements in their annual financial

report. The financial ratio analysis helps listed companies in the Securities and exchange market in determining their profitability and ability to generate more revenue and minimizing cost. The study will contribute to the academia by making individuals understand whether financial ratios have an impact in determining the profitability of the listed companies in the agricultural sector of Kenya. The findings of the study will therefore help the investors in making their investment decision and on the other hand also help the student's further research.

II.

III.

IV.   Objective of the study

The main objectives of the study included the following;

1. To examine the influence of inventory turnover ratio on financial performance of listed companies in the Agricultural sector
2. To evaluate if total asset ratio has any relationship with the financial performance of listed companies
3. To find out relationship between Long-term debt to equity turnover and financial performance of listed companies
4. To assess the relationship between debtors' turnover ratio and financial performance of listed companies

V.   Literature Review

a). Theoretical Orientation

The study used the Modigliani and miller theory. The Germinal idea of company finance proposed by Miller and Modigliani (1958) argues that "the price of a company is impartial of its capital structure" (Miller, 2001) dividends and capital structure are irrelevant within the willpower of stock expenses inside the marketplace. (Miller and Modigliani, 1958; chunk, 2001); as a substitute the market fee of a firm is based totally on the "incomes strength of the property currently held and on the scale and relative profitability of the company.

An overview of the concept based on miller offers a new view about the so called 'junk bonds' which were taken into consideration unwanted and non-tradable for the duration of the 60s whilst low-chance became the norm. Thirty years after the M & M proposal, junk bonds seem to offer dynamism inside the marketplace and have helped develop the desire for leveraged buyouts IPOs now not. The concept was criticized by using (ball, 2001) that the theory has a marketplace perfection attitude. M & m assumed information become entire and symmetric, whilst it was no longer. Secondly there is straightforward popularity of corporations with excessive ranges of debt trading off for tax deductible blessings. The

idea assumes that funding choices have been no longer stimulated by means of economic choices.

b). Empirical Review

Inventory turnover ratio

Nweze (2011) says that inventory turnover is computed by dividing the cost of goods sold by the average inventory. An average inventory is determined by adding the beginning and ending inventories and dividing by two. The inventory turnover ratios measure the average number of days for which stock is held. It helps to assess the efficiency of stock utilization. Various factors affect the stock level help by the organization such as product, production-seasonal or otherwise, demand pattern, competition, funds availability.

Several studies have been conducted to establish the relationship between Inventory turnover and financial performance. Okwo *et al* (2012) studied the link between firm financial management techniques and profitability in selected Pharmaceutical firms in Nigeria. The study covered the following ratios, Long-Term-Debt to Equity Ratio, Inventory Turnover Ratio, Debtors' Turnover Ratio, Creditors' Velocity, Total Assets Turnover Ratio and Net Profit Margin. Profitability as a dependent variable is represented by Net Profit Margin while all the other ratios were the independent variables. The study revealed a positive relationship between Long-Term-Debt to Equity Ratio, Debtors turnover Ratio, Total Asset Turnover Ration and profitability. Inventory Turnover Ratio and Creditors Velocity turnover had a negative relationship with profitability.

A similar study was conducted by Innocent *et al.* (2013) on the relationship between the financial ratio analysis and profitability of the Nigerian Pharmaceutical industry over the past eleven (11) years period from 2001- 2011. The study covered Inventory Turnover Ratio (ITR); Debtors' Turnover Ratio (DTR); Creditors' Velocity (CRSV); Total Assets Turnover Ratio (TATR) and Gross Profit Margin (GPM) (dependent variable). The findings revealed a negative relationship between all independent variables with profitability. The ratio is calculated by

Inventory Turnover = Cost of Goods Sold / Average Inventory where, Average age of Inventory = 360 days / Inventory Turnover.

Total asset turnover ratio

Ezeamama (2010) defines total assets turnover as ratio that expresses the number of times the value of assets utilized by the firm has been generated into sales. According to Pandey (2010) total assets' turnover ratio shows the firm's ability in

generating sales from all financial resources committed to total assets. It tells the firm how well it manages its overall assets. Clausen (2009) denoted that the total asset ratio calculation uses two factors, total revenue and average assets to determine the turnover ratio. When calculating for a year, the total revenue for that year is used. Instead of using the year ending asset total from the balance sheet, a more accurate picture would be to use the total average assets for the year. Once the average assets are determined for the same time that revenue is compared, the formula for calculating the asset turnover ratio is.

Asset Turnover Ratio = Total Revenue / Average Assets

Long-term debt to equity turnover

According to Gopinathan Thachappilly (2009), the Ratio of Debt to Equity has Implications for return on equity debt ratios check the financial structure of the business by comparing debt against total capital, against total assets and against owners' funds. The ratios help to access how leveraged a company is, and the financial maneuverability of the company in difficult times. The concepts of leverage and other issues are examined below. Simultaneously, debt ratios and the related interest coverage ratio checks the soundness of a company's financing policies. One the one hand, use of debt funds can enhance returns to owners. On the other hand, high debt can mean that the company will find it difficult to raise funds during lean periods of business. According to Hutchinson (2010), the long-term debt to equity ratio of a business tells a lot about the business.

Gill (2011) studied the relationship between capital structure and profitability. The study covered a sample of 272 American firms listed on New York Stock Exchange for a period of 3 years from 2005 to 2007. The research revealed a positive relationship between; short-term debt to total assets & profitability and total debt to total assets and profitability in the service industry. Likewise, the study found the positive relationship between short-term debt to total assets and profitability, long-term debt to total assets and profitability, and total debt to total assets and profitability in the manufacturing industry. It is calculated by;

Debt to Equity Ratio = Total Liabilities / Shareholders' Equity

Debtors' turnover ratio and financial performance

Dave (2012) investigated the link between financial management and profitability of the Indian Pharmacy sector for a period of 10 years. The study covered six variables viz. Long-term Debt to Equity Ratio (LTDER), Inventory Ratio (IR), Debtors Ratio (DR), Creditors Velocity (CRSV), Total Assets to Sales Ratio (TASR) and Profit after Tax to Sales Ratio (PATSR). These variables are calculated for 64 public limited pharmaceutical companies. The empirical results showed that TASR and CRVS are the central variables for enhancing the profitability of the enterprise. Debtors' turnover ratio according to this study did not have any relationship with company performance.

Leahy (2012) conducted a study on a segment of the U.S pharmaceutical industry. In her study Leahy sees debtors' turnover ratio as accounts receivable variable that measures the impact of a company's credit function on profitability. This impact includes the risk associated with extending credit. He adds that the higher the ratio of accounts receivable to sales, the greater the manufacturer's profitability. Otherwise, there would be no reason for the company to provide this function. Nweze (2011) argues that debtor's ratio consists of debtors' turnover and the collection period. The debtor's turnover gives the number of times debts are collected during the years.

Return on Equity

This ratio was used to as a measure of financial performance of the companies. It is the dependent variable in this study. Return on equity was used in this study as the measure of financial performance of companies. The return on equity ratio abbreviated as ROE is a profitability ratio that measures the ability of a firm to generate profits from its shareholders investments in the company. In other words, the ratio shows how much profit each Kenyan Shilling of common stockholders' equity generates. The ratio is calculated as;

Return on Equity = Net Income/Shareholder's Equity

iv. Methodology

The ratios of interest to the researcher included the following inventory turnover, asset turnover, debt equity ratio and debtor's turnover. The financial data on the financial statement of listed companies in the agricultural sector were collected from the Capital Markets Authority, Nairobi Securities and Exchange Markets and from the companies involved in the study. The agricultural industry has 7 companies listed in the Nairobi securities and Exchange market. The study used secondary data for the last 10 years. Data between 2006 to 2016. The research was quantitative in nature. Descriptive statistics were conducted using means and standard deviation. Inferential statistics of analysis was also used. This included correlations and multiple Regression analysis. Pearson correlation was used to measure the degree of association between different variables under consideration. Regression analysis was used to examine the relationship of independent variables with dependent variable and to know the effect of independent variables on the dependent variable.

Return on Equity - ROE (Proxy for performance)	Pearson Correlation	.179	-.142	-.125	.114	1
	Sig. (2-tailed)	.220	.329	.392	.435	
	N	59	59	59	59	59

Descriptive Statistics

Descriptive Statistics

	N	Mean	Std. Deviation
Inventory Turnover	59	34854.2677	1.25206E5
Asset Turnover	59	1.5455	1.04444
Debt Equity ratio	59	.5151	.50258
Debtors Turnover	59	31.2354	88.72524
Return on Equity	59	.1129	.11945
Valid	59		

The findings from the above table on descriptive statistics shows that over the period under study, the financial ratios measured by Inventory turnover ratio, Debtors' turnover ratio, Creditors' Velocity and Total assets turnover ratio have a positive mean value which ranges from .1129 to 34854.2677 in Inventory Turn Over. The Debtors Turnover Ratio and Inventory turnover had the highest standard deviation. Debtors Turnover Ratio showed that that the companies collected their funds from transactions as quickly as possible.

Correlations

		Inventory Turnover	Asset Turnover	Debt Equity Ratio	Debtors Turnover	Return on Equity - ROE (Proxy for performance)
Inventory Turnover	Pearson Correlation	1	-.175	-.113	-.067	.179
	Sig. (2-tailed)		.229	.439	.646	.220
	N	59	59	59	59	59
Asset Turnover	Pearson Correlation	-.175	1	.107	.196	-.142
	Sig. (2-tailed)	.229		.463	.178	.329
	N	59	59	59	59	59
Debt Equity Ratio	Pearson Correlation	-.113	.107	1	-.003	-.125
	Sig. (2-tailed)	.439	.463		.982	.392
	N	59	59	59	59	59
Debtors Turnover	Pearson Correlation	-.067	.196	-.003	1	.114
	Sig. (2-tailed)	.646	.178	.982		.435
	N	59	59	59	59	59

The findings from the above correlation matrix shows that inventory turnover ratio and Debtors Ratio had positive correlations of 0.17 and 0.114 respectively with profitability. The strength of the relationship of inventory turnover ratio is represented by 17.0%) while that of debtors' turnover is represented by 11.4%. the percentage shows that the companies take slightly a shorter period to collects debts from the debtors. This is good for the business. The findings also revealed a correlation of -0.142 between Asset turnover ratio and the Return on Equity of the business. Debt-equity ratio from the correlation matrix showed a negative value of 0.125 (-12.5%).

Multiple Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.137	.036		3.786	.000
	Inventory turnover	1.475	.000	.155	1.044	.302
	Asset turnover	-.015	.017	-.135	-.896	.375
	Debt equity ratio	-.022	.035	-.092	-.631	.531
	Debtors turnover	.000	.000	.151	1.018	.314

a. Dependent Variable: Return on Equity - ROE (Proxy for performance)

From the above table, the Inventory Turnover ratio have beta loading (1.475) and the t-value (1.044). This shows that Inventory turnover ratio has a strong positive relationship with profitability of the companies. A unit increase in inventory control leads to 1.475 change to return on equity. This in turn upsurges profitability of the companies. Asset turnover ratio has a negative weak correlation with the correlation coefficient of -.015. An increase in one unit of Asset turnover reduces return on equity by .015.

Asset turnover ratio usually has an inverse relationship with profitability. This is true according to the findings of this research. The debt and equity ratio also have a negative

correlation. These findings were in tandem with the one of Gill (2011). This shows that a reduction in a unit of debt equity turnover ratio leads to an increase in the return on equity by .022. The findings also revealed that the debtors' turnover ratio had no relationship on the Return on Equity of the companies like the findings of a study by Dave (2012). Our model therefore is;

$$Y=.137+1.475X1-.015X2-.022X3$$

V. Conclusions

From the findings above the study concluded that Inventory turnover ratio boosts the return on Equity. A higher inventory turnover ratio is preferred because that means that the firm is selling more at the same time keeping less inventory. This means that the companies can empty their warehouses more often. The companies must therefore increase their inventory turnover ratio because it is a good measure of financial performance of the companies.

The asset turnover ratio was found to have an inverse relationship with ROE. This means that as firm's profitability increases, the asset turnover ratio reduces. The asset turnover ratio tends to be inversely related to the net profit margin. That is, the higher the net profit margin, the lower the asset turnover. This is true from the findings of this research.

Debt to equity ratio measures the relative proportion of shareholders' equity and debt used to finance a company's assets. Ideally a company is supposed to use more of equity than debt. So, the ratio of debt to equity should be low. The findings revealed that as debt decreases, the company increased their equity. This is good for the company as it also improves the return on equity.

The study therefore concluded that inventory turnover, asset turnover and debt to equity ratios are very important indicators of financial performance on listed companies in the Kenya agricultural sector. Higher inventory turnover is preferred. Strong Inverse relationships between asset turnover and debt to equity ratios are also preferred indicators for measuring company performance in that sector.

Implication for businesses

This research findings from this research would enable the management of any business organization in determining how to maximize the shareholders equity by reducing the number of days stock is held in the warehouses. The management should also increase the amount of returns that is generated from the assets. This means that the assets of the companies should be utilized maximumly.

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