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DETERMINANTS OF PROFITABILITY OF AGRICULTURAL FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE, KENYA

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Abstract

Profitability is an important value driver and is a function of public presentation and a prerequisite for value creation and the most potent determinant of total shareholder returns. Therefore, this study sought to investigate the determinants of profitability of Agricultural Firms listed on the Nairobi Securities Exchange in Kenya. The study undertook a census of the 7 agricultural firms listed at the Nairobi Securities Exchange as at 31 December 2014 and used secondary data from the listed firms published financial statements for a period of 10 years from 2006 – 2014. Multiple linear regression and the Karl Pearson Correlation Coefficient were used to analyze data. The study findings revealed that there is a positive and statistically significant relationship between liquidity, firm size and profitability whereas there is an insignificant positive relationship between leverage and profitability while tangibility has a significant negative relationship with profitability. The study concludes that liquidity, firm size and tangibility are the major determinants of profitability of listed agricultural firms in Kenya.

Keywords: Profitability, Liquidity, Firm size, Debt, Tanqibility, Listed firms

INTRODUCTION

Profitability is considered the center around which all the actions of a business takes place (Mistry, 2012). A company' ability to increase profitability, to survive or to expand is more an issue these days due to the existence of the free market (Salman & Yazdanfar, 2012). The information about company performance, especially about its profitability, is useful in substantiating managerial decisions regarding potential changes in the economic resources that the company will be able to control in the future (Burja, 2011). Profitability of corporate business enterprises permits organizations to endure negative shocks and to strengthen their business surroundings. As such, the majority of business organizations are started with the aim of seeking to earn profit and providing an exchange of sufficient incomes to its shareholders (Devi & Devi, 2014).

Profitability is one of the most important objectives of financial management since one goal of financial management is to maximize the owners' wealth, and profitability is a vital determinant of performance (Sivathaasan et al., 2013). Profitability is an important principle of the majority of business entities (Devi & Devi, 2014). As such, maximizing the profits of the firm is one of the main objectives of managers (Nousheen & Arshad, 2013). In order to survive and to succeed in a competitive market firm must focus on maximizing profit, or they will eventually be driven out of business (Schmidt, 2014). A business that is not profitable cannot survive while a highly profitable business has the ability to reward its owners with a large return on their investment. Hence, the ultimate goal of any business entity is to earn profit in order to make sure the sustainability of the business in the prevailing market conditions (Malik, 2011; Sivathaasan et al., 2013).

Profitability

Profitability is the ability to earn profit from all the activities of an enterprise. Profit is the residual of sales revenue once all costs, including interest payments on debt, have been deducted; it thus constitutes the return to equity holders (Bashar & Islam, 2014). Corporate profitability is defined as the level to which an organization can successfully and efficiently make the most of its obtainable funds and assets, and alter them into outstanding profits (Devi & Devi, 2014). As such, profitability in general is a relationship between the profits generated by the enterprise and investments that contributed to the achievement of these profits, and profitability ratios measure the efficiency with which a company turns business activity into profits (Alshatti, 2015). Al-Jafari and Al Samman (2012) posits that profitability refers to earnings of companies that are generated from revenues and after deducting all expenses incurred during a given period.

Profitability reflects the ability of a firm to operate successfully in the competitive environment and therefore combines the results of firm strategy and execution as well as a market response to firm output (Bettina & Anja, 2012). Profitability is an important value driver and is a function of performance and a prerequisite for value creation and the strongest determinant of total shareholder returns (Oladele, 2013). Profitability as the ratio of profit to revenue gives a clearer picture of the performance of a company rather than just the profit (Bashar & Islam, 2014). Profitability ratios are often used to determine the company's bottom line (Boadi, Antwi & Lartey, 2013). Profitability ratios reveal the company's ability to earn a satisfactory profit and return on investment. The ratios are an indicator of good financial health and how effectively the company in managing its assets (Lesakova, 2007).

Factors Influencing Profitability

Profitability is vitally important to corporate performance, especially in competition environments and profitability plays an important role in the structure and development of the firm because it measures the performance and the success of a firm (Nousheen & Arshad, 2013). Profitability is significant for survival and growth of the business enterprise. Several factors play an important role directly or indirectly in determining profitability (Mistry, 2012). Profitability determinants are forces that directly impact the profitability of a firm, and such factors are useful tools for relevant firms to understand what needs to be done and where they should focus in order to improve on the profitability of their business (Bashar & Islam, 2014). Internal factors like leverage, liquidity, tangibility and size have been hypothesized to influence profitability.

The liquidity of a firm refers to its ability to meet short-term obligations using the firm's assets that can be quickly converted to cash since cash is the most liquid form of asset (Olang, Akenga and Mwangi, 2015). A firm not making a profit may be considered as sick, but one having no liquidity may soon meet its downfall and ultimately die. Excessive liquidity indicates accumulated idle funds, which do not earn any profit for the firm (Ehiedu, 2014). The existence of an adequate liquidity and its careful management can make a substantial difference between the success and failure of an enterprise (Kumar and Agarwal, 2012). Liquidity is expressed as a ratio of current assets to current liabilities, as a ratio of current assets less stock to current liabilities or as a ratio of cash and short term marketable securities to current liabilities (Pandey, 2005).

Leverage refers to the extent to which firms make use of their money borrowings (debts, financing) to increase profitability and is measured by total liabilities to equity (Alkhatib, 2012). The choice between debt and equity suggests somehow a tradeoff between business and financial risk (Vatavu, 2014). Increased leverage induces agency problems, such as the underinvestment incentive, that can reduce annual profitability due to the associated increase in the costs of monitoring and control. As such, high leverage levels can actually be valueenhancing for firms as the obligation to meet the repayment schedules under debt covenants disciplines managers to act in ways consistent with shareholders' wealth maximization objectives. This encourages managers to generate future cash flows, thus increasing period profitability and the traded value of the firm (Olaosebikan, 2012).

The size of a firm is the amount and variety of production capacity and ability a firm possesses or the amount and variety of services a firm can provide concurrently to its customers. The size of a firm is a primary factor in determining the profitability of a firm due to economies of scale (Niresh & Velnampy, 2014). Increasing firm size allows for incremental advantages because the size of the firm enables it to raise the barriers of entry to potential entrants as well as gain leverage on the economies of scale to attain higher profitability (Ramasamy, Ong & Yeung, 2005). Tangibility is defined as the ratio of fixed assets to total assets (Boadi et al., 2013). Tangibility represents how an organization uses its assets to generate revenue. The fixed asset to total assets ratio expresses the share of the assets that the company disposes of permanently for its activities and indicates the level of capital investment in the technical and productive infrastructure (Burja, 2011).

Agricultural Firms Listed at the Nairobi Securities Exchange

Nairobi Securities Exchange (NSE) is the principal stock exchange of Kenya. The Nairobi Securities Exchange is licensed and regulated by the Capital Market Authority of Kenya and is one of the most vibrant financial securities markets in Africa (Olang et al., 2015). The shares of sixty one company listed in the NSE trade into eleven sectors, namely agricultural, automobiles and accessories, banking, commercial, construction and allied, energy and petroleum, insurance, investment, manufacturing and allied, telecommunication and technology and growth and enterprise market, while bonds traded consist of government and corporate bonds (Olang et al., 2015). At the Nairobi Security Exchange, the Agricultural Segment is made up of seven companies; Kakuzi specialized in Tea and Horticultural crops, Rea Vipingo plantations-Sisal, Sasini- tea and coffee, Kapchorua Tea, Limuru Tea, Willliamson Tea and Eaagads. These companies belong to the Main Investment Market Segment where the minimum authorized, issued and fully paid up share capital is Kenya Shillings fifty million (Waswa et al., 2014).

Research Problem

The profitability of a firm is an essential criterion to measure the effectiveness and success of firm operations (Bettina & Anja, 2012). In determining the business success of a firm,

profitability performs a dynamic role (Niresh & Velnampy, 2014). Profitability is an important goal that management of every company strives to achieve and without it companies will cease (Al-Jafari & Al Samman, 2012). As such, potential investors are always interested in dividends and appreciation in the market price of stock, so they pay more attention on the profitability ratios. In addition, managers on the other hand, are interested in measuring the operating performance in terms of profitability. Hence, a low profit margin would suggest ineffective management and investors would be hesitant to invest in the company (Niresh, 2012).

In Kenya, agriculture has been a major source of the country's food security and a stimulant to off farm employment but agricultural production is in decline. Most firms in the agricultural sector have not lived to their expectations and have led to shareholder apathy thereby contributing to the decline of the rural economy due essentially to unstable and low dividend payout (Waswa et al., 2014). In addition, most agricultural firms are affected by adverse weather changes, which lead to reduced production, lower sales realization, increased cost of wages, and social facilities, which erode the most of agricultural firms' profitability and thus contribute to constraining cash flows. Hence, the need to examine the balance sheet factors that determine profitability of listed agricultural firms in Kenya.

Vast studies have also examined the factors influencing profitability in various industries and in different countries across the globe and in Kenya. For example, a study by Sivathaasan et al. (2013) established that capital structure and non-debt tax shield have significant impact on profitability while working capital, growth rate and firm size have no significant effect on profitability. In Kenya, Onuonga (2014) explored the internal determinants of profitability of Kenya's top six commercial banks and revealed that bank size, capital strength, ownership, operations expenses, diversification do significantly influence profitability. However, most of the local and international studies have concentrated on different economic sectors as opposed to the agricultural sector. As such, empirical literature related to the determinants of profitability for different types of industries are abundant; however, most of them have produced mixed results (Al-Jafari & Al Samman, 2012). Thus, the need for examining: Which are the determinants of profitability of Agricultural Firms listed at the Nairobi Securities Exchange in Kenya?

LITERATURE REVIEW

Several studies have examined various determinants of profitability in different industries and parts of the world and obtain mixed results. For instance, a study by Davy & Devi (2014) examined the determinants of a firm's profitability of Pakistani firms. The study finding revealed a positive correlation between financial leverage, firm size and corporate profitability. Pratheepan (2014) also explored the determinants of profitability of Sri Lankan listed

manufacturing companies over the period of 2003 – 2012. The study findings established that size had a positive, statistically significant relationship with profitability whereas tangibility had a negative statistically significant relationship with the profitability of selected listed manufacturing companies in Sri Lanka. As such, the findings revealed that leverage and liquidity had an insignificant impact on profitability.

A study by Zaid, Ibrahim and Zulgernain (2014) examined the determinants, public based constructions companies' profitability in Malaysia from 2000-2012. The findings of the study found that liquidity and size have a significant relationship with profitability while capital structure had a negative insignificant relationship with profitability.

Nousheen and Arshad (2013) examined the impact of firm specific and macroeconomic factors on the profitability of the food sector in Pakistan. The study findings revealed the presence of significant negative relationship between size and profitability. The study also revealed that tangibility, growth of the firm and food inflation had an insignificant positive relationship with profitability while debt ratio had an insignificant negative relationship with profitability.

Kim (2013) investigated the impact of liquidity on profitability proxied by return on equity (ROE) of 40 listed companies in the Consumer Products sector in the Stock Exchange of Thailand from 2008 to 2012. The findings of the study found that quick ratio and debt to equity ratio had negative impacts while sales growth had a positive impact on return on equity. In addition. Dogan (2013) explored the effect of firm size on profitability using data of 200 companies, which were active in Istanbul Stock Exchange between the years 2008-2011. The study findings established a positive relation between size indicators and profitability of firms. In addition, the study revealed that the age of the firms and leverage rate had a negative relation with ROA while liquidity rate had a positive relationship with ROA.

Salman and Yazdanfar (2012) investigated the profitability determinants of the four micro firms for the cross-section of Swedish micro firms in the sectors of health, transport, trade and metal. The findings of the study established that growth (competitive condition) and total factor productivity (comparative advantage) have a significant positive effect on micro-firm profitability. Additionally, the study revealed that size (diminishing returns states) had a significant negative effect on micro-firm profitability. Okwo et al. (2012) examined the internal factors that determine the profitability of the beer brewery firms in Nigeria. The study findings revealed that the ratios of inventory to cost of goods sold, account receivables to sales and sales and general administrative expenses to sales had a statistically significant impact on the gross profit margin of firms.

Mistry (2012) studied the determinants of profitability of Indian Automobiles Industry for a period of five years, i.e. 2004-05 to 2008-09. The study found that debt, inventory turnover ratio and size of the firm were the most important determinants of the profitability, which affected the profitability of the companies under the study positively. Seelanatha (2011) also explored the factors that affect the performance of Chinese firms. The study found that factors as operational liquidity, growth and growth potential, asset structure, and size have significant effects on the firms' profitability. The study also revealed that the type of industry has little effect on firm performance.

METHODOLOGY

This study employed a quantitative research design. A quantitative research is based on the measurement of quantity or amount and it is applicable to phenomena that can be expressed in terms of quantity (Kothari, 2004).

The study population consisted of the seven agricultural firms listed at the Nairobi Securities Exchange hence; the study undertook a census of the seven listed agricultural firms as at 31 December 2014.

The study used secondary data from the Agricultural firms' annual published financial statements for a period of 10 years from 2006 – 2014. The 10-year period will provide adequate data on the hypothesized determinants of profitability of listed agricultural firms in Kenya. The data collected was analyzed using the multiple linear regression and the Product Moment Correlation Coefficient using Statistical Package for Social Studies. The regression equation was as follows:

Profitability =
$$\beta_0 + \beta_1(CR) + \beta_2(DR) + \beta_3(FS) + \beta_4(TANG) + \varepsilon$$

Where,

 $Profitability = Return \ on \ Assets \ (ROA) = Ratio \ of \ Net \ Income \ to \ Total \ Assets$

Liquidity(CR) = Ratio of Current Assets to Current liabilities

Leverage $(DR) = Ratio\ of\ Total\ Debt\ to\ Total\ assets$

Firm Size (FS) = Natural log of Sales

Tangibility (TANG) = Ratio of Fixed Assets to Total Assets

 $\beta_o = Constant$

 $\beta_1 - \beta_4 = Regression coefficients$

 $\varepsilon = Error term$



ANALYSIS AND DISCUSSION OF RESULTS

Descriptive Statistics

Table 1: Descriptive Summary Statistics

-	N	Minimum	Maximum	Mean	Std. Deviation
ROA	70	1220	.3722	.07537	.0953
CR	70	.5200	18.760	4.1254	4.0319
DR	70	.0000	.1204	.02358	.02581
FS	70	10.524	15.099	1.3456	1.4204
TANG	70	.2246	.9512	.7398	.1839

The results in table 1 indicate that the average ROA for the agricultural firms is 0.075 hence an indication that the average profitability of the agricultural sector at the NSE is 7.5%, whereas the average current ratio for the firms is 4.12 thus an indication that the liquidity status of the listed agricultural firms is good. In summation, the average debt ratio of the firms is 0.023 hence an implication that there is low employment of debt by the agricultural firms. Finally, the average tangibility of the listed agricultural firms is 0.74, which indicates that the firms' level of fixed assets is satisfactory.

Correlation Analysis

Table 2: Correlation Matrix

	ROA	CR	DR	FS	TANG
ROA	1				
CR	.223	1			
DR	.173	215	1		
FS	.020	520 ^{**}	.043	1	
TANG	378**	167	274 [*]	.289 *	1

^{**.} Correlation is significant at the 0.01 level (2-tailed).

The results in table 2 indicate that there is a positive correlation between liquidity, leverage and firm size and profitability of firms. In addition, the results show that there is a positive correlation between profitability and tangibility of the agricultural firms listed at the Nairobi Securities Exchange.

^{*.} Correlation is significant at the 0.05 level (2-tailed).

Regression Analysis

Table 3: Summary of the Regression Coefficients

Model	В	Std. Error	Т	Sig
(Constant)	099	.125	795	.430
CR	.008	.003	2.666	.010
DR	.489	.430	1.139	.259
FS	.020	.009	2.321	.023
TANG	193	.061	-3.132	.003
F- value (4, 65)	5.317	P-value	.001	
R	497	R Square	.247	
Adjusted R ²	.200			

Dependent Variable: ROA

The results in table 3 indicate that the R Square-value is 0.247, which indicates that 24.7% of the variation in the dependent variable (ROA) is explained by the study variables, i.e. liquidity, leverage, firm size and tangibility while 75.3% is explained by other factors which have not been considered in the model. The results also indicate that the F-value is 5.317 with a P value of 0.001< 0.05 an indication that the model is significant in explaining the relationship between the study variables. The results also show that there is a positive and statistically significant relationship between liquidity and firm size and profitability of the listed agricultural firms, which means that liquidity, and firm size significantly influences the profitability of the listed Agricultural firms in Kenya. This finding conforms to that of Pratheepan (2014) who established that size had a positive statistically significant relationship with profitability. In addition, Zaid et al. (2014) also found that liquidity and size have a significant relationship with profitability.

In addition, the results show that there is an insignificant positive relationship between leverage and profitability which means that debt has no significant influence of profitability of the listed agricultural firms in Kenya. This finding conforms to that of Devi and Devi (2014) which revealed a positive correlation between financial leverage, firm size and corporate profitability. Pratheepan (2014) also revealed that leverage had an insignificant impact on profitability. Nousheen and Arshad (2013) also found that debt ratio had an insignificant but a negative relationship with profitability. However, Dogan (2013) revealed that the age of the firms and leverage rate had a negative relation with profitability.

Further, the results of the study show that there is a negative and significant relationship between tangibility and profitability, thus an indication that a decrease in the level of fixed asset negatively affects the profitability of listed agricultural firms in Kenya. This finding is similar to that of Pratheepan (2014) who found that tangibility had a negative statistically significant relationship with the profitability of selected listed manufacturing companies in Sri Lanka however, Nousheen and Arshad (2013) revealed that tangibility had an insignificant positive relationship with profitability. As such, Seelanatha (2011) established that operational liquidity. growth and growth potential, asset structure, and size have significant effects on the firms' profitability.

CONCLUSIONS

The study findings revealed that there is a positive and statistically significant relationship between liquidity, firm size and profitability whereas there is an insignificant positive relationship between leverage and profitability while tangibility has a significant negative relationship with the profitability of listed agricultural firms in Kenya. Thus, the study concludes that liquidity and firm size positively and significantly influences profitability while tangibility negatively influences the profitability of listed agricultural firms in Kenya. The study also concludes that debt does not influence the profitability of the listed agricultural firms in Kenya since most the listed agricultural firms' debt usage is minimal.

REFERENCES

Al-Jafari, M. K. & Al Samman, H. (2015). Determinants of Profitability: Evidence from Industrial Companies Listed on Muscat Securities Market. Review of European Studies, 7 (11), 303 – 311

Alkhatib, K. (2012). The Determinants of Leverage of Listed Companies. International Journal of Business and Social Science, 3 (24), 78-83

Alshatti, A. A. (2015). The Effect of the Liquidity Management on Profitability in the Jordanian Commercial Banks. International Journal of Business and Management, 10 (1), 62-71

Bashar, S. M. & Islam, M. I. (2014). Determinants of Profitability in the Pharmaceutical Industry of Bangladesh. Journal of SUB, 5 (1), 56-76

Bettina, P. & Anja, S. (2012). The Contribution of International R&D to Firm Profitability. Discussion Paper No. 11-002. Accessed online from ftp://ftp.zew.de/pub/zew-docs/dp/dp11002.pdf

Boadi, E. K., Antwi, S. & Lartey, V. C. (2013). Determinants of Profitability of Insurance Firms in Ghana. International Journal of Business and Social Research, 3 (3), 43-50

Burja, C. (2011). Factors Influencing the Companies' Profitability. Annales Universitatis Apulensis Series Oeconomica, 13 (2), 215 – 224

Devi, A. & Devi, S. (2014). Determinants of Firms' Profitability in Pakistan. Research Journal of Finance and Accounting, 5 (19), 87-91

Dogan, M. (2013). Does Firm Size Affect the Firm Profitability? Evidence from Turkey. Research Journal of Finance and Accounting, 4 (4), 53-59

Ehiedu, V. C. (2014). The Impact of Liquidity on Profitability of Some Selected Companies: The Financial Statement Analysis (FSA) Approach. Research Journal of Finance and Accounting, 5 (5), 81-90



Kim, C. P. (2013). Factors Affecting Profitability (Case of Consumer Products Companies of Thailand). International Conference on Innovations in Engineering and Technology (ICIET'2013), 25-26

Kothari, C. R. (2004). Research Methodology: Methods and Techniques. New Age Publishers New Delhi

Kumar, D. & Agarwal, C. (2012). Liquidity Management in Indian Electrical Equipment Companies (A Comparative Study of Companies Listed in Nifty 50. Int. J. Of Trade and Commerce, 1 (2), 367-389

Lesakova, L. (2007). Uses and Limitations of Profitability Ratio Analysis in Managerial Practice. 5th International Conference on Management, Enterprise & Benchmarking, June 1-2 2007, Budapest.

Mistry, D. S. (2012). Determinants of Profitability in Indian Automotive Industry. Techno Journal of Management Studies, 7 (1), 20-23

Niresh, J. A. & Velnampy, T. (2014). Firm Size and Profitability: A Study of Listed Manufacturing Firms in Sri Lanka. International Journal of Business and Management, 9 (4), 57-64

Niresh, J. A. (2012). Trade-off between Liquidity & Profitability: A Study of Selected Manufacturing Firms in Sri Lanka. Journal of Arts, Science & Commerce, 4 the (2), 34-40

Okwo, I. M., Ugwunta, D. O. & Agu, S. U. (2012). An Examination of the Factors that Determine the Profitability of the Nigerian Beer Brewery Firms. Asian Economic and Financial Review, 2 (7), 741-750

Oladele, K. O. (2013). The Determinants of Value Creation in the Nigerian Banking Industry: Panel Evidence. International Journal of Business and Social Science, 4 (3), 89 - 101

Olang, M. A., Akenga, G. M. & Mwangi, J. K. (2015). Effect of Liquidity on the Dividend Payout by Firms Listed at the Nairobi Securities Exchange, Kenya. Science Journal of Business & Management, 3 (5), 196-208

Olaosebikan, O. (2012). The Determinants of the Profitability of Micro-Life Insurers in Nigeria. University of Bath, Claverton Down

Onuonga, S. M. (2014). The Analysis of Profitability of Kenya's Top Six Commercial Banks: Internal Factor Analysis. American International Journal of Social Science, 3 (5), 94-103

Pandey, I. (2005). Financial Management. New Delhi: Vikas Publishing House.

Pratheepan, T. (2014). A Panel Data Analysis of Profitability Determinants Empirical Results from Sri Lankan Manufacturing Companies. International Journal of Economics, Commerce and Management, 2 (12), 1-9

Ramasamy, B., Ong, D. & Yeung, M. C. H. (2005). Firm Size, Ownership and Performance in the Malaysian Palm Oil Industry. Asian Academy of Management Journal of Accounting & Finance, 1, 81-104

Salman, A. K. & Yazdanfar, D. (2012). Profitability in Swedish Micro Firms: A Quantile Regression Approach. International Business Research, 5 (8), 94-106

Schmidt, N. (2014). The Determinants of Firm Profitability: The Effect of Social Media. CMC Senior Theses. Paper 958. http://scholarship.claremont.edu/cmc_theses/958

Seelanatha, L. (2011). Determinants of Firms' Performance: Some Chinese Evidence. Investment Management and Financial Innovations, 8 (3), 28-38

Sivathaasan, N., Tharanika R., Sinthuja, M. & Hanitha, V. (2013). Factors determining Profitability: A Study of Selected Manufacturing Companies listed on the Colombo Stock Exchange in Sri Lanka. European Journal of Business and Management, 5 (27), 99-107

Vatavu, S. (2014). The Determinants of Profitability in Companies Listed on the Bucharest Stock Exchange. Annals of the University of Petrosani, Economics, 14 (1), 329-338

Waswa, C. W., Ndede, F. W.S. & Jagongo, A. O. (2014). Dividend Payout by Agricultural Firms in Kenya: An Empirical Analysis of Firms Listed on the Nairobi Security Exchange. International Journal of Business and Social Science, 5 (11), 63-74

Zaid, N. A. M., Ibrahim, M.H. & Zulgernain, N. S. (2014). The Determinants of Profitability: Evidence from Malaysian Construction Companies. Proceedings of 5th Asia-Pacific Business Research Conference, 17-18 Feb 2014

