



# INFLUENCE OF CAPITAL STRUCTURE ON THE FINANCIAL PERFORMANCE OF KENYA TEA DEVELOPMENT AGENCY TEA MANUFACTURING FIRMS IN KERICHO AND BOMET COUNTIES, KENYA

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## ABSTRACT

The study sought to determine the effect of changes in capital structure on the financial performance of KTDA tea processing factories in Bomet and Kericho Counties in Kenya over a period of five years from 2008/2009-2012/2013. The capital structure indicators were short –term debt, long- term debt and total debt to total assets, and total debt to total equity while financial performance was measured using Return on Equity (ROE). Previous studies that had been conducted had focused on mostly listed companies leaving the manufacturing sector largely unexplored. The analysis was based on panel fixed effect regressions. The results indicate that capital structure has significant effect on ROE of tea processing factories. Long term debt was found to have insignificant and positive influence on the financial performance of the tea processing firms. Short term debt on the other hand was found to have a negative significant influence on firm performance. This means that for intervention in tea processing factories financial performance, long term debt and total debt are important factors as they lead to better performance. However, critical considerations need to be made regarding the use of short term debt since short term debt was found to have significant negative influence on financial performance as indicated by ROE.

**KEY WORDS:** Capital Structure, Financial Performance, Return on Equity (ROE)

## INTRODUCTION

Capital structure is the debt equity ratio a firm adopts to finance its operations (Damodaran, 2001). The capital structure decision is important to firms as it significantly contributes to the value of the firm. Gleason, Mathur and Mathur (2000) notes that using varying equity and debt levels in the capital structure is an important strategy that managers of firms could adopt as it influences performance. Increasing leverage for firms has been found to have implications for firm value and financial performance.

The tea industry in Kenya makes significant contribution to the country’s GDP. Tea Board of Kenya (2013) reports that the tea industry contributes 4% to Kenya’s GDP and that the industry makes significant contribution to the economy through foreign exchange earnings. The industry is one of the leading sources of livelihood in the country and supports an estimated five million people directly and indirectly (TBK, 2013). The performance of the tea processing factories is of importance given the contribution it makes to general economic growth of the company. It was important to determine the influence of changes in capital structure on the financial performance of the tea industry since capital structure has been found to have implications on firm value and overall firm performance.

In seeking to determine the effect of changes in capital structure on financial performance of KTDA tea processing factories the following research hypothesis was used

H<sub>01</sub>: Capital structure has no significant effect on financial performance



**Figure 1: Conceptual Framework**



## LITERATURE REVIEW

Alawwad (2013) investigated capital structure impacts on the operating performance of non-financial firms operating in Saudi Arabia for the period between 2008 and 2012. Data from 67 companies of 13 different sectors were used to analyze the relationship between capital structure proxies that include short-term debt (STD), long-term debt (LTD) and total debt (TD) with operating performance measured by earnings per share, return on assets, return on equity and net profit margin. Firm size was used as a control variable in the study. The results indicate that only LTD and TD had significant impacts on ROE while ROA had a statistically significant relationship with each level of debt. Both EPS and NPM were found to have positive relationship with STD whereas they have inverse relations with LTD and TD.

A study by Kinsman and Newman (1998) by using three measures of debt levels established an association between increased use of debt and lower financial performance of firms. The study further revealed a negative correlation between current short term debt earnings. However long term debt was found to have positive correlation with earnings. However, overall results demonstrate an inverse correlation between firm performance and debt. The results of a study by Majumdar and Chibber (1999) showed that debt equity ratio and size of the firm were negatively and positively related with performance respectively. Gleason *et al.* (2000) and Agarwal *et al.* (2001) examined the association between performance and leverage by using return on asset and indicated that total debt has a negative significant influence on performance.

A study by Mesquita and Lara (2003) established that long term debt is not significantly related to ROE and it has negative sign, showing potential inverse relationship. Result of short term debt presented positive sign thus, this also suggest that short term debt become a common practice among the most profitable companies. Further, Philips and Sipahioglu (2004) reported that debt level and financial performance had no significant relationship in their study.

Abor (2005) reported that total debt and short term debt is positively and significantly associated with ROE. In addition, the results show that profitability increases with size and firm sales growth. Contrary to this, long term debt shows a negative significant relationship and hence decreases the returns to the firm. This supports the findings of Hadlock and James (2002) where profitable firms use more debt. However, Abor (2007), found significantly negative relationship between all the measures of capital structure and firm performance (ROA) in the case of Ghana.

In the South African sample the result between short term debt and return on asset is statistically significant positive relationship. Thus, it indicates that short term debt is deemed to be relatively less costly. Hence, increasing short term debt is due to less cost of debt could result in high profit levels. For long term debt and total debt, the result reveal inverse relationship with ROA. Thus, the study indicated long term debt has higher cost and this can lead to low return on asset.

Madan (2007) while evaluating the contribution of financing decision to the overall firm performance reported that leverage had different effects on firms. For some, the effects were positive while others reported a negative relationship. The firms which had been moderately geared with a ratio of 50 percent until 85 percent reported positive effects on ROE. According to Zeitun and Tian (2007), capital structure has a significant effect on the performance measures in both accounting ratios of ROA and ROE. This concurs with the findings of Myers (2001), that firms with higher short term debt to total asset have a high growth rate and high performance. In addition, high performance is associated with a high tax rate indicating that profitable firms pay a high tax rate. Furthermore, firm size was found to have a positive impact on a firm's performance as large firms have a low bankruptcy costs. Chen *et al.* (2008) found out that efficiency was negatively correlated with performance while, larger firm has less positive changes in return on assets and the change in leverage is positively correlated with the change in return on equity.

A study carried out by Jermias (2008), showed that leverage and performance is significantly negative and that firm size is significantly but negatively related to performance. The study reveals that use of debt in the capital structure is beneficial because of the tax advantage brought about by the tax deductibility of interest and also because there is increased efficiency in the firms since the debt holders impose constraints on the firms.

Min-Tsung (2009) studied the influence of debt and equity financing on the operating performance. Findings in the study show that debt finance and debt financing have significantly negative consequence for operating performance



except for the firms having very high cash flows. Hence, these findings suggest that it is dangerous for firms to rely or depend entirely on either debt or equity for raising capital but it is much safer and better to raise finance by both methods, with each working together, at the same time. This was also supported by the findings of Ebaid (2009) when he found a negative association between debt to equity and performance hence confirming prior research findings that companies with high debt to equity ratios are usually perceived as being risky investments.

In a study by Wang (2010) on 60 Chinese real estate listed companies revealed that leverage has a disciplining role for firms with low-growth opportunities. This is due to the findings that showed firms with low growth opportunities and high growth opportunities having a negative relationship between a debt financing while those firms with mid growth opportunities had a positive relationship with operating firm performance. On the other hand, San and Heng (2011) revealed that ROA and ROE has no relationship with large, medium and small construction companies while the result for ROE is same with Saeedi and Mahmoodi (2011) but not for ROA who found that it is associated with STD, LTD and TD. Allen (1991) investigated the financial managers' perceptions of the broad determinants of listed Australian company capital structure decisions. The study results reported that companies appear to follow a pecking order with respect to funding sources and also report policies of maintaining spare debt capacity.

Although literature on capital structure and empirical evidence on the determinants of firm profitability is abundant in case of developed countries, however except few studies the question whether capital structure of manufacturing firms influence their performance remains largely unexplored in emerging economies in general and in Kenya in particular. This is especially on the tea processing factories yet it is one of the major foreign exchange earners to the country. In addition, most of the studies reviewed indicated that major interest has been put on those listed companies that are trading in security exchange and left the other companies outside the trading sector such as tea processing factories. The studies reviewed also report mixed findings as to the influence of various capital structure components on the financial performance of firms. In addition, the studies reveal that the degrees of estimated effects differ depending on the variables under study and the industry. There was need to assess capital structure effects on the tea processing firm performance.

### The Trade-Off Theory

According to the trade-off theory firms are faced with the decision on financial structure and adopt varying degrees of debt and equity given the associated costs and benefits of adopting a particular capital structure. The theory acknowledges that tax advantage of using debt finance but also brings takes into account the associated bankruptcy costs, financial distress costs and agency costs associated with the use of debt financing. The theory suggests that while the use of debt finance increases the firm value however at some point the bankruptcy and distress costs may outweigh the tax advantage of debt at which point the firm should not employ any additional debt in its capital structure. The theory seems to suggest that firms should use optimum levels of debt that allows them to balance the costs and benefits associated with use of debt in the capital structure which will enable the firms to maximize their values.

### RESEARCH METHODOLOGY

The study adopted a cause effect research design whereby the capital structure variables effect on the financial performance. The target population was nine KTDA tea processing firms in the Counties of Bomet and Kericho. Secondary data was collected the audited financial statements of nine tea factories. Panel fixed regression analysis was conducted to determine the effects of various capital structure indicators on the ROE of the firms.

The study indicators for capital structure were firm level leverage, SDTA (Short-term debt / total assets), LDTA (Long- term debt / total assets), TDTA (Total debt / total assets), and the TDTQ (Total debt / total equity) which were regressed against ROE the indicator of financial performance where the model assumed a lagged form and is specified as:

$$F_{it}^p = \beta_1 + \beta_2 SDTA_{it-1} + \beta_3 LDTA_{it-1} + \beta_4 TDTA_{it-1} + \beta_5 TDTQ_{it-1} + \varepsilon_{it-1}$$

Where:  $F_{it}^p$  = Tea processing factories performance level measured by ROE.

$SDTA_{it-1}$  = Short-term debt per total assets.

$LDTA_{it-1}$  = Long-term debt per total assets.

$TDTA_{it-1}$  = Total debt per total assets.

$TDTQ_{it-1}$  = Total debt per total equity

$\varepsilon_{it-1}$  = Regression disturbance term



## ANALYSIS AND FINDINGS

### Effects of Capital Structure on ROE of tea processing factories

The study's objective aimed at determining the influence of capital structure on the financial performance (measured by ROE) of the tea processing factories in Kericho and Bomet counties. The findings presented in Table 2 and it shows that, short-term debt, and total debt were both significant at 0.05 % level. The p-value of the capital structure in relation to ROE was 0.048 which is less than the 0.05 level of significance. Therefore, we reject the null hypothesis and the study adopts the alternate hypothesis that capital structure has significant effect on ROE of tea processing factories. On the contrary, actual capital structure and long term debt have positive and insignificant effects on the tea processing factories respectively.

The study also reveals that short-term debt has a negative influence on the tea processing factories performance. This means that the use of short term debt is not beneficial and it negatively influences the performance of the tea processing factories. This seems to suggest that increased use of short term debt could explain the tea processing factories poor performance as indicated by ROE. The study findings agree with those of Abor (2007), and Zeitun and Tian (2007) who indicated that firm performance is negatively related to short-term debt.

The study reports a positive relationship between total debts and performance of the tea processing factories as indicated by ROE. This implies that, as we increased the total debt of the tea processing factories, their respective performance also increases. This is attributed to the impact of long-term investment since most of the operations in the tea processing factories are capital intensive. These findings concur with those of Abor (2005).

**Table 1: Summary of the effects of capital structure on Return on Equity of tea factories**

<u>Variables</u>	<u>Coefficient</u>	<u>Standard error</u>	<u>P-value</u>
Short-term debt per total assets	-1164.349	564.9982	0.048**
Long-term debt per total assets	0.0189917	0.0160584	0.246
Total debt per total assets	174.6474	84.75021	0.048**
Total debt per total equity	0.0183845	0.0410488	0.657
Constant term	0.159999	0.0593405	0.011
<b>Diagnostic statistics</b>			
Corr (u <sub>i</sub> , xb)	-0.15980		
Sigma <sub>u</sub>	0.05443		
Sigma <sub>e</sub>	0.09470		
Rho	0.24835		
Number of Observations	44		
Number of groups	9		
F(4,31)	1.97		
Prob > chi2	0.0034		

\*\* (p<0.05), Summarized from computer output (STATA)

### Conclusion

The study reports that short term debt and total debt had negative significant effects and positive significant effects on the tea processing factories financial performance. This means that supplying the finance through short-term debts does not lead to profitability for the tea processing factories. This implies that increase in the short term debt decreases the prospect of the tea factory to perform better. Moreover, there is a positive relationship between leverage and



profitability. This means that use of debt in the capital structure is beneficial to the firm however firms should employ more long term debt as it positively influences their performance.

### Recommendation

The study recommends that tea processing factories should establish a balance between debt and equity, an optimal position which would maximize the value of the firm. The study recommends that tea processing firms should be careful when using short term debt since it negatively influences their performance. However long term debt is recommended since the study finds long term debts to have positive effect on firm performance. The study further recommends that further research should be conducted on the capital structure effects on other indicators of profitability.

### REFERENCES

1. Abor, J. (2005). *The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana*. *Journal of Risk Finance*, 6, 438-447.
2. Abor, J. (2007). *Debt policy and performance of SMEs: evidence from Ghanaian and South Africa firms*. *Journal of Risk Finance*, 8, 364-379.
3. Agarwal, R & Elston, J.A. (2001). *Bank-firm relationships, financing and firm performance in Germany*. *Economics Letters*, 72, 225-232.
4. Alawwad, S. (2013). *Capital structure effect on firms' performance: evidence from Saudi listed companies*.
5. Allen, D. E. (1991). *The determinants of the capital structure of listed Australian companies the financial managers' perspective*. *Aust. J. Manage. Univ. New South Wales*, 16,103-128.
6. Chen, G., Firth, M. & Zhang, W. W., (2008). *The efficiency and profitability effects of China's modern enterprise restructuring programme*. *Asian Review of Accounting*, 16 (1), 74-91
7. Damodaran, A. (2001). *Corporate Finance: Theory and Practice*, 2nd edition, Wiley.
8. Ebaid, I. E. (2009). *The Impact of Capital-Structure Choice on Firm Performance: Empirical Evidence from Egypt*. *The Journal of Risk Finance*, 10(5), 477-487.
9. Gleason, K. C., Mathur L. K. and Mathur, I. (2000). *The interrelationship between cultures, capital structure, and performance: Evidence from European retailers*. *Journals of Business Research*, 50,185-91.
10. Hadlock, C. J. & James C. M. (2002). *Do banks provide financial slack?* *Journal of Finance*, 57, 1383-420.
11. Jermias, J. (2008). *The relative influence of competitive intensity and business strategy on the relationship between financial leverage and performance*. *The British Accounting Review*, 40(1), 71-86.
12. Kinsman, M. D. & Newman, J. A. (1998). *Debt associated with Lower Firm Performance: Finding calls for review of rise in debt use*, *Graziadio Business Report Fall 1998*.
13. Madan, K. (2007). *An analysis of the debt-equity structure of leading hotel chains in India*. *International Journal of Contemporary Hospitality Management*, 19(5), 397-414.
14. Majumdar, S. K. & Chibber, P. (1999). *Capital structure and performance: Evidence from a transition economy on an aspect of corporate governance*. *Public Choice*, 98, 287-305.
15. Mesquita, J. M. C., & Lara, J. E. (2003). *Capital structure and profitability: the Brazilian case*. In *Academy of Business and Administrative Science Conference, Vancouver, Canada*, 1(5), 227-233.
16. Min-Tsung, C. (2009). *Relative effects of debt and equity on corporate operating performance: A quantile regression study*. *International Journal of Management*, 26 (1).
17. Myers, S. C. (2001). *Capital structure*. *Journal of Economic Perspectives*, 15(5), 81-102.
18. Phillips, P. A., & Sipahioglu, M. A. (2004). *Performance implications of capital structure: evidence from quoted UK organisations with hotel interests*. *The Service Industries Journal*, 24(5), 31-51.
19. Saeedi, A. & Mahmoodi I. (2011). *Capital Structure and Firm Performance: Evidence from Iranian Companies*. *International Research Journal of Finance and Economics*.
20. San, O. T. & Heng T. B. (2011). *Capital Structure and Corporate Performance of Malaysian Construction Sector*. *International Journal of Humanities and Social Science* 1(2), 28-36.
21. Tea Board of Kenya, (2013). *The Tea Market-A background study, Draft for Comments*. Nairobi: Tea Board of Kenya
22. Wang, (2010). *An Empirical Analysis of Debt Financing on Firm Investment Behavior: Evidence from China*. *Journal of Information Science and Management Engineering*, 2, 356-359.
23. Zeitun, R. and Tian, G. G. (2007). *'Capital Structure and Corporate Performance: Evidence from Jordan'*, *Australasian Accounting Business and Finance Journal*,1(4), 40-61.