

Organizational Profitability of Manufacturing Companies listed on the Ghana Stock Exchange

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Abstract— Profitability is one of the most important objectives of financial management because one goal of financial management is to maximize the owner's wealth. Hence profitability becomes very important determinant of company performance. The purpose of this study is to investigate the effect of corporate income tax and liquidity on profitability of manufacturing companies listed at the Ghana Stock Exchange. Profitability is the dependent variable while corporate income tax and liquidity are the independent variables. The sample in this study includes four listed manufacturing companies on the Ghana Stock Exchange for over five years. Correlations of variables and regression analysis revealed a negative relationship between profitability of manufacturing companies and corporate income tax to show that corporate income tax has negative effect on company profitability. However, a positive and significant correlation was established between liquidity and profitability on manufacturing companies. Liquidity is positive and significant in predicting the profitability of manufacturing companies with $p\text{-value} = 0.006$. This implies that a unit increase in the company liquidity will lead to 0.006 increase in company profitability.

Keywords— Profitability, financial management, liquidity, manufacturing companies, Ghana Stock Exchange

1.0 Introduction:

Firm's profitability and ways of improving it are hotly debated issues among managers and scholars. Hence, identifying the sources of variation in firm-level profitability is an important research theme in economics, strategic management and accounting and finance (Goddard, Tavakoli & Wilson, 2005). Subsequently, understanding the determinants of heterogeneity in firm profitability is arguably one of the most fertile fields of analysis both for industrial economists and strategic management researches (Kattuman, Rodriguez, Sharapov & Velazquez, 2011).

Profitability" refers to earnings of companies that are generated from revenues after deducting all expenses incurred during a given period (Owulabi & Obida 2012). It is considered one of the most important goals that management of every company strives to achieve, without which companies will cease. Ultimately, the goal of the firm is to maximize the wealth of its shareholders by increasing the value of their stocks (Owulabi & Obida 2012). However, literature in finance provide evidence of strong relationship between earnings and stock values. Accordingly, if earnings announcements come as expected or better, stock prices will increase. On the other hand, if earnings announcements fell short of expectations, the stock prices will decline (Al-Jafari and Samman 2015). The reason is, determining the profitability of manufacturing companies is crucially important, being the main strategy for

economic development, as well as requirement for any country adopting an export-oriented industrialization policy within an open economic environment (Pratheepan, 2014).

Owulabi and Obida (2012) further stated that profit is the difference between revenues and expenses over a period of time, usually one year. Hence, profit is the ultimate 'output' of a company. The profitability ratios are calculated to measure the operating efficiency of the company. Some the profitability ratios include the following: (1) Return on Investment (ROI), in which the term investment may refer to total assets or net assets (Owulabi and Obida 2012). The funds employed in net assets are known as capita employed. Net assets equal net fixed assets plus current assets minus current liabilities excluding bank loan. The conventional approach of calculating return on investment is to divide Profit After Tax (PAT) by investment. Investment refers to pool of funds supplied by shareholders and lenders, while PAT represents residue income of shareholders. (2) Return on Equity (ROE) is defined as the sum of stock, additional paid-in capital if any and retained earnings (Moyer, Mcguigan, and Kretlow 2003). This measures the amount that the firm earns on stockholders' investment. The rate of dividend is not fixed; the earnings may be distributed to shareholders or retained in the business. Nevertheless, the net Profit After Tax represents their return. A return on shareholder equity is calculated to see the profitability of owners' investment. The shareholders' equity or net worth include paid up share capital, share premium and reserves and surplus less accumulated losses. Hence, the ROI is net Profit After Taxes divided by shareholders' equity which is the net worth. (3) Return on Assets (ROA) which expresses the net income earned by a company as a percentage of the total assets available for use by that company (Owulabi & Obida, 2012). ROA suggests that companies with higher amounts of assets should be able to earn higher levels of income. ROA measures management's ability to earn a return on the firm's resources and assets. The income amount used in this computation is income before the deduction of interest expense, since interest is the return to creditors for the resources provided to the firm. The resulting adjusted income amount is thereby the income before any distribution to those who provided funds to the company. ROA is computed by dividing net income plus interest expense by the company's average investment in asset during the year.

This makes profit an important data for making economic decisions as dividend payment guidelines, the means for management effectiveness assessment, and instrument for evaluation and decision-making by investors, managers, and analysts (Saghafi and Aghaei, 1994). Consequently, two important elements of potential impact of corporate income tax on profitability considered by Gatsi, Gadzo, & Kportorgbi, (2013) are the effects on innovation and risk-taking with successful ventures for instance, in profitability typically penalized disproportionately by corporate tax regimes. Various aspects of corporate tax regimes, other than the statutory rate, such as Research and Development (R&D) tax credits or deductions for some or all types of investment, are aimed at reducing adverse impact of corporate tax on firm's 'success'. These may not be observed through levels of firms' accounting profits, but rather through choices over types of investment or the extent of activities that give rise to reductions in taxable profits via increased deductions. To the extent that these aspects, stimulated by the corporate tax regime, generate productivity improvements, as opposed to corporate tax minimizing strategies with no 'real' economic benefits, they should be evident in firm's profit level (Gatsi et al, 2013).

Huge volume of literature to date has sought to identify the determinants of firm profitability. However, less number of researchers in the area has relied on panel data analysis to establish empirical relationship, for instance, in Sri Lanka. The panel nature of data permits estimation of dynamic profitability models over the business cycle at the level of the

individual firm, towards testing both persistence and cyclicity of firm profitability (McDonald, 1999). In their analysis of the relationship between working capital management and profitability of listed Manufacturing Companies in Ghana, Badu and Asiedu (2013) identified inventory management, cost, and price as factors affecting profitability. However, Gatsi, Gadzo, and Kportorgbi (2013) indicated that, the challenges of the manufacturing sectors have been located in the midst of high corporate income tax rates in excess of 35% up to 2006. The government of Ghana over the years has accepted the fact that taxes have serious effects on the ability of manufacture companies to retain earnings. It is from this backdrop that the corporate income tax rates have evolved from about 45% in the 1980s to 25% currently. Aside the reduction in corporate income tax rates, tax policies have provided several reliefs and tax rebates that manufacturing companies can take advantage of. For instance, manufacturing companies in the three Northern regions of Ghana enjoy a 100% tax rebate, while those situated in other regions excluding regional capitals, except in Accra-Tema enjoy 50 percent tax rebates. Concessionary rates are also available for manufacturing companies that export substantial portions of their products (Internal Revenue Act, 2000). These reliefs, rebates, and concessions are expected to influence profitability, investment decisions and ultimate performance of companies.

Under a so-called “classical” corporate income tax system, the return on corporate equity is subject to full double taxation. At first, corporate profits are subject to the corporate income tax, and the dividends and capital gains on shares stemming from these profits are subsequently subject to ordinary personal income tax at the shareholder level. By contrast, that part of corporate source income which takes the form of interest on corporate debt is only subject to the personal income tax, since interest payments are deductible from taxable corporate profits. As a consequence, corporations have a tax incentive to use debt finance rather than equity finance (Sørensen, 1994). In the traditional view of the corporate income tax, these tax non-neutralities cause three types of distortion: First, they induce corporations to substitute some amount of debt finance for equity finance. Second, they cause some amount of retained earnings to be substituted for finance by new share issues. Third, because corporations will still want to rely to some extent on equity finance, the double taxation of corporate equity income tends to raise the required pre-tax rate of return on corporate investment above the required return on investment in other sectors of the economy, thereby causing a misallocation of the economy’s total capital stock (Sørensen, 1994).

Following the ability-to-pay approach theory Akakpo (2009) is of the assertion that taxes are based on taxpayers’ ability to pay thus there is no quid pro quo. The underlying principle of this theory is that taxes paid are seen as a sacrifice by taxpayers, which raise the issues of what the sacrifice of each taxpayer should be and how it should be measured. Based on this, the theory has the following principles: (1) Equal sacrifice, which implies that the total loss of utility as a result of taxation should be equal for all taxpayers so that those who can afford to pay higher taxes are made to pay higher than those who cannot afford. (2) Equal proportional sacrifice, which means that, the proportional loss of utility as a result of taxation should be equal for all taxpayers such that the payment of taxation should not deprive anybody of what he/she would have previously sacrificed. (3) Equal marginal sacrifice in which instantaneous loss of utility is measured by the derivative of the utility function as a result of taxation should be equivalent for all taxpayers. This will require the least collective sacrifice.

Liquidity management is a concept that is receiving serious attention all over the world especially with the current financial situations and the state of the world economy. The concern of business owners and managers all over the world is to devise a strategy of

managing the day to day operations in order to meet the obligations as they fall due and increase profitability and shareholder's wealth (Owolabi&Obida, 2012). Hence, a study of liquidity is of major importance to both internal and external analysts because of its close relationship with day-to-day operations of a business (Bhunia, 2010). The problem in liquidity management is to attain a preferred relationship that links liquidity to profitability (Raheman et al & Nasr, 2007). Accordingly, in the midst of high liquidity of working capital firms may exhibit low risk, implying low profitability. On the other hand, in the midst of low liquidity of working capital, firms may face high risk with high profitability. Kadapakkam, Kumar & Riddick (1998) examined the extent to which liquidity influence firm profitability in the Organization for Economic Cooperation and Development, (OECD) countries without emphasis on internal investment to show that liquidity has positive effect and bears highly sensitive relation with internal investment in all the countries. Based on this there is a positive relationship between liquidity and firm profitability on manufacturing companies. The question at this point is in managing liquidity: "Is the firm required to be concerned about profitability towards equilibrium between the risk and return"?

1.1 Statement of the problem

The manufacturing companies have not been able to expand production or sustain their production due to many government policies in various forms. The puzzle, on one hand, has been the revenue accumulated by the manufacturing companies which would at the same time be used for catering corporate income tax and other expenditures of the company. The phenomenon has been causing lots of loss to the manufacturing companies' survival or to attract investment. The manufacturing companies' inability to survive is due to allocation of minimal resources towards risk attraction from foreign investment or partnerships. Furthermore, many circumstances arise from policies that are deadening to the survival of the manufacturing companies. The study therefore, examines the effect of corporate income tax and liquidity on profitability of manufacturing companies listed at the Ghana StockExchange.

1.2 Objective of the Study

The objective for this study was to examine effect of corporate income tax and liquidity on profitability of manufacturing companies at the Ghana Stock Exchange.

1.3 Research Question

The research question is 'What is the effect of corporate income tax and liquidity on profitability of manufacturing companies listed at the Ghana Stock Exchange?'

2.0 Materials and Methods

The methods and materials used by the researchers to investigate the effect of corporate income tax and liquidity on profitability of manufacturing companies listed at the Ghana Stock Exchange addressed the following: Study research design, **population and sample size, model specification, data analysis and conclusion.**

2.1 Research Design

The annual time series data used is from 2006 to 2015 of which the data on selected manufacturing firms including Aluworks, Ghana, Benso Oil Palm Plantations, Fan Milk Ghana and Guinness Ghana, was obtained from the Ghana Stock Exchange. The study targeted manufacturing companies on the Ghana Stock Exchange to run the analysis using descriptive statistic, correlation and regression analyses towards explaining the relationship between the variables.

2.2 Population and Sample Size

The population for the study covers all manufacturing companies listed on the Ghana Stock Exchange. Purposively, the four Companies were sampled for this study to serve as representative of the Manufacturing sector. . Aluworks is an aluminium continuous-casting

and cold-rolling mill located at the port city of Tema, Ghana. Aluworks operated with a workforce of about 440. Currently the labour force is 265. The company was incorporated as a private company limited by shares on the 24th day of February 1978. The company was listed on the Stockexchange on November, 29, 1996.

The Benso Oil Palm Plantation Limited (BOPP GH) listed on the Ghana Stock exchange Based at the Adum Bansa Estate in Takoradi. It was incorporated on 22nd January 1976 and is involved in the production and processing of crude palm oil.

Guinness is a Ghanaian brewery founded in 1960. Located at the Kaasai Industrial Area in Kumasi. Guinness Ghana Breweries is listed on the Stock index of the Ghana Stock Exchange, the GSE All-Share Index.

Fan Milk is a manufacturer and retailer of ice cream and frozen dairy products which has a position on the West African Market. The manufacturing industry was founded in 1960. In 2013, the Abraaj Group, a growth market provide equity investor acquire 100% of Fan Milk business in West Africa.

2.3 Specification of the Model

The Regression model was used to examine the relationship between the independent variable and the dependent variable.

2.4 Definition and Measurement of the Variables

ROA refers to Return On Assets which are used in measuring profitability. Profitability was measured using the return on asset ratio to ascertain how profitable the company is relative to its total asset. This is represented by Profitability = net profit (after tax)/total assets.

CIT is defined as a corporate income tax of the firm and it is measured by deducting expenses including the cost of goods sold and depreciation from revenues.

LIQ represents the liquidity of the firm. Liquidity is measured by the current assets over the current liability of the firm.

Profitability is the dependent variable could be measured using various profitability ratio such as Return On Asset (ROA), Return On Equity (ROE), Net Profit Margin (NPM), Gross Profit Margin (GPM) and Return On Capital (RON) employed.

2.5 A Priori Expectation

The expected relationships of the independent variable are as follows:

- Corporate income tax is expected to have a negative relationship as it relates with rational thinking that any increase in CIT will adversely affect profits. Therefore, its coefficient β_1 is expected to be negative, thus $\beta_1 < 0$.
- Liquidity is expected to have a positive relationship with profitability. Its coefficient B_4 is thus expected to be positive ($B > 0$)

The independent and dependent variables of the study were identified to ascertain the impact of corporate income tax and liquidity on the profits of each manufacturing company including Aluworks, Ghana, Benso Oil Palm Plantations, Fan Milk, Ghana and Guinness Ghana. The independent variables are the Corporate Income Tax (CIT) paid by the identified firms for the year of assessment. This was sourced from the annual report of the corporations

under study and the liquidity (LIQ) of the firm served as control variable since corporate tax is not the only variable that affects profitability.

Taking into consideration that the primary objective of the study was to look at the effect of Corporate Income Tax on the profitability of manufacturing companies, there was the need to define the components that affected the profitability of manufacturing companies looking at corporate income tax variables. This demanded a model suitable to be employed to analyze the effect of corporate income tax on the profitability of manufacturing companies. Hence the model used for the study is given as:

$$Y_i = \alpha + \beta_x + \Sigma_i \dots \dots \dots (1)$$

Here Y is the dependent variable, α is the intercept of the equation, β is the coefficient of the independent variable, i is the time-series dimension, x is the set of the independent variable, μ is the disturbance term. From equation (1), the linear regression model is given as:

$$ROA = \beta_0 + \beta_1 CIT + \beta_4 LIQ + \mu_i \dots \dots \dots (2)$$

Where i represents the log of the variables, β_0 represents the constant and β_i denotes the coefficients of the variables. All variables have duly been explained. The model has been demonstrated in the linear log form. The reason is, some of the values of the variables might turn out to be little whereas others would be huge. It is therefore of necessity that the log form is used to make the values of the variables obtain identical level or unit.

3.0 RESULTS AND DISCUSSION

3.1 Descriptive Statistics of Variables

Table 1 shows the mean, standard deviation, minimum and maximum variables used for the study. From the analysis, it was found that the mean value of liquidity is (0.38) and the standard deviation of (0.83). The mean value of corporate income tax (14.48) and the standard deviation is (1.81) which implies that corporate income tax of manufacturing companies has a strong influence on its profitability.

Table 1: Descriptive Statistic

Variable	Obs	Mean	Std.dev	min	Max
Lnliq	40	.3789445	.8265509	-1.123622	2.039257
lncit	34	14.48463	1.807286	10.98529	17.55675

Source: Field Work, 2019

3.2 Relationship between Variables

In Table 2, the correlation analysis sought to establish the relationship between the effect of liquidity and corporate income tax on the profitability of manufacturing companies. The analysis shows that the independent variables negatively correlated with each other. The analysis also shows that there is a negative and insignificant relationship between liquidity (-0.52) and corporate income tax (-0.19) on manufacturing companies profitability. This depicts that they cannot influence the profitability of the company positively. From the correlation matrix in Table 2, the insignificant relationship that corporate income tax has with profitability of manufacturing companies its negative impact on profitability concur with Jens and Schwellnus (2008), who suggest that corporate income tax reduces investment through increase in the user cost of capital. This implies that, as corporate income tax of companies

increases, the rate at which companies invest in other investment portfolios decreases, resulting in decreases in the profitability of the companies.

Table 2: Correlation Matrix

	Lnroa	Lnliq	Lncit
Lnroa	1.0000		
Lnliq	-0.5190	1.0000	
Lncit	-0.1912	-0.4440	1.0000

Source: Field Work, 2019

In Table 3, the regression analysis shows that corporate income tax does not have a significant impact on the manufacturing company’s profitability as indicated by P-value (0.622) but have a negative effect on profitability. This implies that a (0.06) increase in the corporate income tax will decrease its profitability by 50%. However, there is a positive and significant relationship between liquidity and profitability of the company as indicated by the t-value (3.10) and p-value (0.006 with a positive estimated coefficient of (1.46). This implies that an increase in the liquidity of the company will lead to an increase in its profitability.

The study also deduced from the regression coefficient that there is a positive and significant relationship between liquidity and profitability of companies as indicated by the t-value (3.10) and p-value (0.006). The findings are in line with Kadapakkam, Kumar & Riddick, (1998), who examined the extent to which liquidity influenced firm profitability in the OECD. to show that liquidity has positive effect and sensitive relation with profitability of companies. Finally, the analysis shows that all the four independent variables used in this study have 45.25% on the profitability of manufacturing companies as represented by the Adjusted R-Square. This, therefore, means the five independent variables contribute to 78.4% of the company’s profitability, while other factors not studied in this research contribute to 54.75% of the profitability of manufacturing companies in Ghana.

Table 3: Regression Coefficient

Variables	Coef	Std.err	T	p>t
Lnliq	1.455155	.4692714	3.10	0.006
Lncit	.0631745	.1262158	0.50	0.622

Source: Field Work, 2019

R –Squared = 0.5620

Adjusted R-Squared = 0.4525

Prob (F-Statistics) = 0.0034

F-Statistics = 5.13

Conclusion

A negative relationship exists between profitability of manufacturing companies and corporate income tax to show that corporate income tax has negative effect on company profitability. However, a positive and significant correlation was established between liquidity and profitability on manufacturing companies. Liquidity is positive and significant

in predicting the profitability of manufacturing companies with $p\text{-value} = 0.006$. This implies that a unit increase in the company liquidity will lead to 0.006 increase in company profitability.

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