

THE EFFECT OF LEVERAGE ON PROFITABLITY OF MEDIUM TAX PAYERS FOOD AND BEVERAGE MANUFACTURING COMPANIES IN ADDIS ABABA

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Declaration

I, the undersigned, declare that this research work entitled: effect of leverage on profitability of food and beverage manufacturing companies in Addis Ababa: is submitted in partial fulfillment of the requirements for the Degree of Master of Science in Accounting and Finance; it is outcome of my own effort and independently produced original study; farther it has never been presented to any university for academic credit. All information used from other sources are duly cited and acknowledged. The study complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ACRONOMY

ATR: Assets Turnover Ratio

CLRM: Classical Linear Regression Model

CAPM: capital asset pricing model or

DY: Dividend yield

DR: Debt Ratio

DFL: Degree of financial leverage

DCL: Degree of Combined Leverage

EPS: Earning per share

ERCA Ethiopian revenue and custom authority

GPR: Gross Profit Ratio

LOGLTDTE: long-term debt to equity ratio

NIAT: net income after taxes

NSE: Nairobi Stock Exchange

OLS: ordinary least square

PBV: Price-book value

RSGAE: Ratio of Selling and General Administrative Expense

ROA: Return on Asset

ROE: Return on Equity

ROCE: Return on capital employed

SACCOS: Savings and Credit Co-operative Societies

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Abstract

The major focus of this study is to investigate effect of leverage on profitability. Twelve medium tax payers' food and beverage manufacturing companies in Addis Ababa were included in the sample that had at least eight years annual report. Document review was used for collecting data from 2011/12- 2017/18 annual reports. In line with this objective, the study adopted quantitative methods of research approaches to test the study hypothesis. The study applied return on asset as the measurement of profitability and panel data model with its random effect estimate to test a series of hypotheses that emerge through the review of existing literature. The collected data then analyzed using descriptive statistics, correlation analysis, and panel data regression analysis. To confidently forward conclusion, normality, multicollinearity, heteroscedasticity and autocorrelation tests were conducted on the data. The data then was processed using Eviews 8 statistical package.Then, regression result indicates that leverage has a negative relationship with profitability and statistically significant. While managerial efficiency and capital intensity has a positive and significant effect on profitability and firm growth has a positive insignificant effect on profitability. Inflation is the only independent variable which does not have significant effect on profitability in this study. Therefore, medium tax payers' food and beverage manufacturing companies' for better and stable growth recommended that must not depend heavily on leverage funds, as all leverage has its impact on their earning which ultimately effects its portability and inventors perception for firms. Finally firm with high leverage ratio have to examine their efforts to control unwanted risk and exposure which will impact their portability and hit their market potential.

Key words: return on asset, leverage, food and beverage manufacturing companies and panel data

CHAPTER ONE

INTRODUCTION

This chapter conferred with introduction which entails about background of the study, background of food and beverage companies in Ethiopia, statement of the problem, objectives of the study, research hypothesis, significance, scope and limitations of the study, and structure of the paper.

1.1 BACK GROUND OFTHE STUDY

Wealth creation is a central message of conducting a business (Myers, 2003). A business is defined by online business dictionary as an organization or economic system where goods and services are exchanged for one another or for money. The idea of starting a business is surrounded by many decisions which determine the success of that particular business. The general decisions are how to finance the business, how to structure the business, how to manage the business and more of such nature. The major decision to the business owner is financing decision since the finance acts as a pillar for business success which is used to purchase the machines, materials, manpower and working capital. The business needs finance for purchasing the assets (land, machinery and equipment, building and raw materials), pay bills, pay wages and expanding its operations. Financing decision draws attention where finance needed to perform the mentioned above uses of fund comes from and aiming at exploring the benefits and demerits of each source to the success of the business. A firm financial decision was determined by both the mix and type of financing used by the firm and firms finance investment activities using either equity or leveraged funds (Gitman, 2009);.

The decision of financing using either equity or debt funds is termed as financing policy. A financial policy of choosing equity, leverage or mixing both at a given ratio is called capital structure. Capital structure describes as combination of debt capital, equity shares, preference shares and retained earnings. Thus, decision as to the optimum capital structure is very vital for any organization, i.e., Different alternatives are available to companies for financing itself sometimes through issuing securities, or some time from debt. Therefore, organizations assemble

different combinations of sources of finance in which the level of debt capital could be huge or small in capital mix. Studies confirm that an ultimate goal of a firm is the maximization of wealth or value of that firm (Modigliani, F., & Miller, M., 1963). As a result the issue of capital structure and its impact on firm value has been the subject of remarkable landmark over the past several years in the finance literature. Bankruptcy will eventually be lower which signifies that business will continue operating. Any organization needs a capital for its establishment and expansion, and that capital can come from debt or equity. Debt has an advantage that any amount of interest to be paid on the payment date is tax deductible, this would reduce debt's effective cost and debt holders get a fixed return, so stockholders do not have to share their profits if the business is highly successful. However, debt has its own limitation (disadvantage) that as an amount debt increases a cost of debt and equity rises; and if the company fall on hard time and fall to pay its interest, its shareholders will have to make up the shortfall, and if not bankruptcy will result. Having a large amount of debt can keep the company from getting success and wipe out the stockholders (Booth, L, V, Aivazian, A, Demirguc-Kunt and M,Vojislav, 2001)

One company is considered as unlevered if and only if there is no debt in its capital structure, while a firm which has a debt in its capital structure is considered as leveraged firm. Note that there exist two major leverage terms: operational leverage and financial leverage. An operational leverage is mainly related to a company's fixed operating costs, while financial leverage is related to fixed debt costs a firm. Always as stated in many financial theories, operating leverage increases the business (or the operating) risk, and financial leverage increases the financial risk. Total leverage one firm then calculated as percentage of firm's fixed operating costs and debt costs, implying that a firm's total risk equals business risk plus financial risk.

1.2 Background of food and beverage industries in Ethiopia

A manufacturing sector in Ethiopia is among the key developmental sectors of the economy which can Spur a growth of country economy and an special sector of development because of its contribution to wealth creation, creating employment opportunities and poverty reductions. Manufacturing sector can be divided into various subsectors namely leather and leather product, wood and pulp product, food and beverage products food and beverage products, chemicals and chemical products, rubber and plastic products, other non-metallic minerals products and metal

and engineering products industries. In Ethiopia food and beverage sector is one of the main components of manufacturing sector. It accounted the highest percentage 29.46% distribution of large and medium scale manufacturing industries by the regional state public and private industrial group. The first GTP (2010-2015) ranked agro processing industries among top priorities industries. Based on the CSA (2014/15) abstract report of manufacturing survey, the number of establishment with responses under this subcategory are 908 and of this those under public 95.45% and private accounts about 98.01% of the ownership title. According to Addis Ababa Chamber of Commerce and Sectoral Association (AACCSA) studies of October 2015, the top two manufacturing subsector, food and beverage and metal and engineering industries accounted for 62.42 % of value added by the sector's, while food and beverage sector alone accounted 39 % of the employment in the sector in the year 2014/2015 according to the above reports. The above subsector includes a many variety of activities, it is mostly linked to the transformation of domestically produced product especially agricultural products. The source of fund to the food and beverage subsector relies highly on domestic banks to meet its financial resources demand. In terms of employment, the number of employees under this subsectors private and public can be estimated at 128,954 which accounts about 31 %. This is the highest of the labor force absorbed by the manufacturing industries found all over the country in the year 2014/2015(CSA abstracts report,2017). The majority of materials input availability which is around 69% used by this subsector are available domestically. However, it is large extent dependent on rain-fed production of raw materials, such as raw milk, oil crops, fruits and vegetables, grain/cereals, sugar cane, unprocessed tea/coffee, malt and etc. The production of processed products therefore to a large extent depends on the seasonality of weather, which largely determines the quality of the material available. The situation is true for most food and beverage agro-processed products. Volatility of production size due to inconsistent supply of input, which is again as a result of the weather-dependent nature of most raw materials for this subsector, was one potential difficulty raised(CSA abstracts report,2016). Availability of Skilled manpower is another determinant factor that determines the wellbeing of this subsector. The food and beverage subsector currently absorbed a relatively large quantity of both skilled and unskilled workers available for the entire manufacturing industries of the country. In conformity with the national level status, data collected through company level survey revealed that availability of skilled manpower is not an issue at current condition (CSA abstracts report, 2016).

There are also some major challenges in the food and beverages products producers faces while selling products in the domestic and foreign markets. Top on the list are high cost of production compared to imported goods, low tariff protection, insurgent of illegal goods and lack of access to market as major domestic market challenges. In similar fashion high cost of production compared to other competitor, lack of knowledge about foreign market trends, low capacity to produce in bulk and inability to keep product standards were most frequently mentioned foreign market challenges faced by the companies.

1.3 Statement of the Problem

The choice of capital structure is one of the most important strategic financial decisions of firms. When issue of capital structure is rises its impossible to overlook leverage. However, it has been the subject of substantial debate and investigation. The debate on what drives capital structure decisions and its impact on profitability is still open. Since the seminal work of Modigliani and Miller (1958), a number of theoretical literatures which led to the formulation of alternative theories were developed, such as the static trade off theory, pecking order theory and agency cost theory. These theories states about a number of specific factors that may affect the capital structure and profitability of firms such as size, tangibility, growth, risk, liquidity, age, and dividend payout, as well as how the capital structure or financing decision affect the value of firms. The determinants of capital structure and firm value have been contested for many years and still represent one of the most unresolved issues in corporate finance literature. Only a few of the developed theories have been tested by empirical studies and the theories themselves lead to different, not mutually exclusive and sometimes opposed result and conclusion (Rajan, R. G., & Zingales, L., 1995). Morri& Beretta (2008) explained that numerous theoretical studies and much empirical research have addressed those issues, but there is no a fully supported and generally accepted theory; and the debate on the significance of determinant factors of capital structure and profitability of the firm value is still open.

The empirical literature provides mixed results on the relationship between leverage and firm's performance. For example Mwangi et al (2014), Maina and Kodongo (2013), Dogan (2013), and Nunes et al (2008), pointed that there is negative correlation between leverage and Profitability. While Khalid et al (2014), Fosu (2013) and Almajali et al (2012) found a positive relationship between leverage and profits, Velnampy and Anojan (2014) found that there is no significant

impact of Leverage on profitability. Margaritis, D. and Psillaki, M. (2010), in their study also states that total debt ratio a ratio of total debt of the firm to total capital structure of the firm correlated positively and significantly with profitability of firms in Indian. Even though, they identified that total debt ratio have a positive impact on firms financial performance, they could not split the total debt ratio into short term debt and long term debt, to identify the effect of long term debt on firms financial performance.

In addition to the above contradictory results from different angles, many empirical literatures which study a relationship between firm's profitability and firms 'capital structure were produced different mixed results. For example; a study by Safari (2009), investigate the effects of capital structure on profitability. In his study a researcher used 100 Iranian listed firms from a period of 2001 to 2007. Again the researcher found short-term debt and total debts are positively related to profitability (Return on equity) which indicate a negative relation between long-term debts and return on equity. In their study Huang and Song (2006), states there was a negative correlation between leverage and performance (earnings before interest and tax to total assets on firms of China). While Chakraborty (2012) employed two performance measures, including ratio of profit before interest, tax and depreciation to total assets and ratio of cash flows to total assets and two leverage measures, including ratio of total borrowing to assets and ratio of liability and equity, and reported a negative relationship between them. While examining the relationship between capital structure and financial performance of firms in Jordan, (Zeitun, R., Tian, G.) found that debt level is negatively related with performance. In a similar study on microfinance institutions in sub-Saharan Africa, (Kyereboah-Coleman)) found that high leverage is positively related with performance (i.e. ROA and ROE).

In the contexts of Ethiopia, there are a again more studies on the determinants of capital structure and determinants of profitability distinctly were studied by deferent researchers. For example, Ashenafi (2005) study a determinant of capital structure on medium enterprises in Ethiopia, whereas (Amanuel, 2011) wrote using evidence from manufacturing share companies of Addis Ababa city on a determinant of capital structure. In addition, Bayeh (2011) assessed using evidence from Ethiopian insurance companies. In addition to the above reseasrch, in the financial institution especially banking industry of the country, (Weldemikael, 2012) studied capital structure evidence of Commercial Banks in Ethiopia while another researcher (Amdemikael, 2012) examine factors affecting financial performance of banks with a focus on overall

profitability determinants. However, no one was emphasized on the core business operations of food and beverage manufacturing companies which attract the interest of many individual investors currently in Addis Ababa as well as some other parts of Ethiopia. Again, in all these studies carried out locally, the researcher found that no one scholar has emphasized the effect of leverage on manufacturing companies, especially food and beverage companies. One major goal of firms are maximizing profits and shareholders' wealth; besides these those manufacturing companies also need to comply with various requirements laid down by the concerned government authority and one of the requirements is capital adequacy. Again one may want to know, to what extent a food and beverage manufacturing companies in Addis Ababa are profitable and how their profitability is affected by its leverage position in order to make an investment in this sector. Therefore, this study is aiming to determine how the profitability of medium tax payer's food and beverage manufacturing companies in Addis Ababa is affected by leverage.

1.4. Objective of the study

1.4.1. General Objective

The general objective of this study is to examine the effect of leverage on profitability of medium tax payer's food and beverage manufacturing companies' operates in Addis Ababa.

1.4.2. Specific Objectives

In addition to above general objectives the following are specific objective of this study research.

- ✓ To measure the extent to which firm specific factors (firm growth, capital intensity, managerial efficiency) and other microeconomic specific (General inflation of the country) affect profitability of medium tax payer's food and beverage manufacturing companies' of Addis Ababa
- ✓ To investigate the effect of leverage on profitability of medium tax payer's food and beverage manufacturing companies' of Addis Ababa.
- ✓ To determine the relationship between firm characteristic and profitability of medium tax payer's food and beverage manufacturing companies' of Addis Ababa.

1.5. Research Hypothesis

Kothari (2004) stated that, hypothesis is a simply means of mere of assumption or some supposition to be proved or disproved by researcher when they want to know something which is news. Again for researcher hypothesis is a formal question that the researchers are intends to resolve. To guide some investigation or accepted as highly probable in the light of established facts the researcher always develop hypothesis as a means of explanation for the occurrence of some specified group of phenomena either asserted merely as a provisional conjecture. So that for achieving the objective of these study, the following five hypotheses are developed regarding the determinants of profitability of medium tax payers food and beverage manufacturing companies in Addis Ababa grounding on different empirical research and theoretical review in chapter two. In addition how the following five hypotheses are developed is discussed in detail at the end of chapter three under evolution of hypotheses section.

H1. Leverage has a negative significant effect on profitability of medium tax payers' food and beverages manufacturing companies' in Addis Ababa.

H2. Firm growth has a positive and significant effect on profitability of medium tax payers' food and beverages manufacturing companies in Addis Ababa.

H3. Capital intensity has a positive and significant effect on profitability of medium tax payers' food and beverages manufacturing companies' in Addis Ababa.

H4. Managerial efficiency has positive and significant effect on profitability of food and beverages manufacturing companies in Addis Ababa.

H5. Inflation has negative and significant effect on profitability of food and beverages manufacturing companies in Addis Ababa.

1.5 Scope (delimitation) of the study

The scope of this study is limited to the effect of leverage on profitability of medium tax payers' food and beverage manufacturing companies in Addis Ababa over the period 2011/2012-2017/2018. The study encircled to examine the impact of other determinants (managerial efficiency, firm growth, capital intensity and inflation) on profitability of sampled food and beverage manufacturing companies. Specific focus is on medium tax payer's food and beverage manufacturers and producers which report their annual financial statements to Ethiopian ministry of revenues (medium tax payer's branch).

Since the annual financial report of the companies that is posted by ministry of revenue is an input for this study, a company which its data are not available are planned to be excluded. Therefore the researcher is supposed to analyze only medium tax payer's food and beverage companies that their audited annual financial statement report is found in Ethiopian ministry of revenues (medium tax payer's branch) in Addis Ababa.

1.6 Significance of the study

The research is expected to contribute first and for most; to the selected manufacturing companies under the study. The findings are highly important for the management of those manufacturing companies who intended to know their financial positions. The study alsohave greater role in indicating a company whether to use debt or ignoring debt from its capital structure made a company more profitable. Further, it will serve as a bench mark and reference material for those who want to conduct further research in the same area. The findings of the study willcontribute to the body of knowledge in a way that it adds value to the theory of leverage and its relation with profitability.

1.7 Organization of the paper

This paper is organized in to five chapters. The first chapter is introduction which consists of back ground of the study, statement of the problem, objectives, the stated hypothesis, significance, delimitation and limitation of the study. The second chapter briefly presents the theoretical and empirical literatures. Then the third chapter deals about research methodology. The fourth chapter presents data presentation and analysis. Finally, chapter five states the conclusion and recommendation of the researcher.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Under this chapter theoretical and empirical literature review regarding leverage and financial performance relationship discussed in detail. In a separate section nature of theoretical background behind Leverage, scientific studies which examined the impact of leverage on firm's financial performance, conclusions on the literature review and identification of the knowledge gap will present. Finally, based on theoretical and empirical literatures which area discussed conceptual framework is developed.

2.1 Theoretical studies

Once an issue related to capital structure was rises always it is a works of (Modigliani, Franco, and Merton H. Miller, 1958) which comes to mind. Those theory writers claim that owners of the firms are indifferent about its capital structure, because the firm's value does not depend on debt-to-equity ratio. Authors consider "an ideal world" without taxes and any transaction costs. After long period of studies Later (Modigliani, F., & Miller, M., 1963) introduce a concept of taxes into the model they developed and indicates that the value of a firm increases with more debt in its capital structure due to the tax shield.

Again a work of Modigliani and Miller's initiated further discussions about optimal capital structure. Since their theory predicts 100% debt financing (due to substantial corporate tax benefit), which is not observed in practice, there should be some trade-off costs against the tax shield. The actual level of debt is determined by tax advantage and the costs of debt in the capital structure. Economists consider bankruptcy costs, personal tax, agency costs, asymmetric information and corporate control considerations as possible trade-off options against tax shield.

This is the essence of the trade-off theory, according to which higher profitability is related to higher leverage due to the tax shield, but is not at the level of 100% of assets due to trade-off costs. Again after a period of time (Myers, Stewart c., and Nicholas S. 1984) developed a "pecking order" theory of capital structure, according to pecking order theory firms initially use internal funds, then debt, and, if a project requires more funding, equity. Therefore, according to pecking order theory firms which are very profitable and generate sufficient cash flows will always use less debt. Further studies of the relationship between leverage and firm performance can be divided into two groups. The first one is based on the information asymmetries and signaling. Ross (1977) came up with a model that explained the choice of debt-to-equity ratio by a willingness of a firm to send signals about its quality. The core idea of Ross (1977) is that it is too costly for a low-quality firm to abuse the market and signal about its *high* quality by issuing more debt. As a result, low quality firms have low amount of debt, and the leverage increases with the value of a firm. A similar model was developed by Leland and Pyle (1977): the higher is the quality of the project manager wants to invest in, the higher is the willingness of the manager to attract financing. That is why a risky firm will end up with lower debt. The second group of studies explains the relationship between capital structure and firm performance through the agency costs theory, developed by (Jensen, Michael C., and William H. Meckling, 1976) and (Myers S. C., 1977) Agency costs are related to conflicts of interest between different groups of agents (managers, creditors, stockholders). There could be two types of agency problems.

An agency problem between managers and shareholders. It arises whenever managers own less than 100% of shares of firm's assets due to unwillingness of managers to do their best in order to maximize firm value (which is preferable for shareholders). Jensen and Michael (986) Considered benefit of debt as a restriction of managerial discretion and stated that "the problem is how to motivate managers to disgorge the cash rather than invest it below the cost of capital or waste it on organizational inefficiencies". Managers of low-indebted firms are inclined to spend free cash flows more freely, thus taking less effective projects and generating lower return. In the opposite situation, when a company has debt in its capital structure, managers are committed to make interest payments, thus having less free cash flow left and choosing a more effective way to distributing these cash flows. An alternative point of view is that shareholders delegate some part of their control over managers to debt holders, giving possibility to evaluate firm performance to capital markets.

A similar idea, but from a slightly different point of view, was suggested by (Grossman, Sanford J., and Oliver D. Hart. , 1982). Firms, which are mostly equity financed, have very low risk of bankruptcy. Managers of such firms are not penalized in case of low profits and have no incentives to be more effective. Besides, bankruptcy implies some personal costs for managers, such as loss of reputation etc. Thus, the addition of debt disciplines managers, as the incentive effect arises from the desire to avoid bankruptcy. To sum up, an increase of leverage is followed by better corporate performance according to this type of agency problem.

Another theory about managers acting in their own interests was proposed by (Harris, Milton, and Artur Raviv, 1988). They explain higher leverage as an antitakeover instrument: – firms with a large amount of debt will be less likely to become a target for acquisition. That is why managers, who are afraid to lose their job after takeover, may be willing to accumulate higher than necessary amount of debt.

An agency problem between stockholders and debt holders. This type of a problem is rooted in the conceptual difference between stockholders and debt holders. The former take more risks and demand higher return, whereas the latter take less risk and agree with lower return. Hence, shareholders may want to take projects with higher risk than debt holders would prefer. In the case of success of these projects stockholders will earn extra return, while in the case of failure all losses will be between debt holders and stockholders (Jensen and Meckling, 1976). As a consequence, more indebted firms take lower-risk projects. On the other side, Myers (1977) showed that discrepancies in goals between debt holders and shareholders could lead to underinvestment. As a result, higher leverage might as well lead to poorer corporate performance.

Summary of all capital structure theories is shown in Table 2.1:

Theory	**Relationship**	**Causality**
Modigliani and Miller (1963)	Positive	Performance affects debt
Trade-off	negetive	Performance affects debt
Pecking-Order	Negative	Performance affects debt
Free-cash-flow	Positive	Debt affects performance
Signaling	Positive	Performance affects debt
Agency problem	positive	Debt affects performance

Thus, theories provide quite alternative views on the relationship between leverage and firm performance. This is when empirical studies are appealed to decide between them.

2.1.1 Leverage

Leverage has different meaning from concepts of many discipline. Elangkumara P. and Nimalathasan B. (2012) in their study define Leverage as the employment funds on which the company has to incur fixed cost or return. The main reasons that companies using debt in its capital structure is to enhance shareholders earning. Firms always employed debt on their operation pay less tax than those unlevered firms because interest payment is tax deductible expense. The asset or source of fund is used as a force to make better the firm's ability to increase profitability higher. The higher the leverage indicates that higher outside borrowing and hence it is riskier if the firms earning capacity is reduced from time to time. But, only when return on investment fund is higher than the cost of outside borrowing, leverage effect will be complimentar (Elangkumaran, P. and Nimalathasan, B., 2012)

2.1.2. Operating leverage

There are two costs in the firm cost structure as of breakeven analysis show that are essentially fixed costs and variable costs. Operating leverage means the relative importance of fixed cost in the firms cost structure. It is the relationship between fixed and variable cost in the firm's cost structure. Always Fixed costs are costs that have to be met regardless of output and revenue firm generates. The higher the proportion of fixed cost to variable cost in the firms cost structure, the higher the firms' break-even volume of output. Companies Such as highly automated and capital intensive, employed a highly skilled worker who must be retained and paid even when sales are low and have high product development cost that must be maintained to complete research and development projects (Brigham, 2011). The firm is said to have a high degree of operating leverage When there is a high percentage of fixed cost in their cost structure, A degree of operating leverage defined as other things remains constant the percentage change in earnings before interest and tax (EBIT) relative to a percentage change in sales. Since EBIT depend on sales, the change in sales will affect EBIT. Hence, the variability in EBIT due to change in sales is affected by the composition of fixed and variable costs (Elangkumaran, P. and Nimalathasan, B., 2012)

2.1.3. Financial leverage

A second types of leverage is financial leverage. Financial leverage is defined as a firm's decision using fixed charge source of fund. When the firms use financial leverage the business risk is concentrated on the common stockholders. Return on invested capital is the same before and after using financial leverage because the firms financing decision doesn't affect operation. Since there is interest payment (share of creditor), net income is lower after using financial leverage but, net income is shared over small equity bases and return on equity will be higher (Brigham, 2011). Firms employed debt on their operation (levered firms) pay less tax than unlevered because interest payments are tax deductible for tax purpose. For instance in Ethiopia as stated in ERCA (2016) Proclamation No. 979/2016, article 23 sub-article 1 deduction of interest paid or payable on debt or other instrument or agreement that give rise to the interest to derive business income within the rate used between national bank of Ethiopia and commercial banks shall be allowed in determining the taxable income of tax year. Even though the net income of levered firm distributed to stockholder as a dividend lower than that of unlevered firm, total distribution is higher because total distribution by the levered firm includes both to debt holder and stockholder (interest and dividend respectively). Financial leverage measures firms‟ exposure to the financial risk. Financial leverage used by firms is required to earn more return on fixed charge fund than their cost. It has a direct relationship with return on equity means surplus increase owners‟ equity deficit decrease owner equity (Elangkumaran, P. and Nimalathasan, B., 2012). Muthusamy (2011) Point out that financial leverage is Precondition for achieving optimal capital structure. An optimal capital structure can also guide firms‟ value and wealth of shareholders by reducing the cost of capital. Hence shaping the optimal debt level and its impact on firms overall capital structure is considered as a central issue under the firms‟ financial decision.

2.2 The concept of profitability

Profit is the primary objective of a business. In point of view of the heavy investment which is necessary for the success of most enterprises. Profit in the accounting sense tends to become a long term objective which measures not only the success of the product, but also of the development of the market for it. It is determined by matching revenue against cost associated with it. Only those costs are placed against revenue, which have contribution in the generation of

such revenue. An enterprise should earn profits to survive and grow over a long period of time. It provides evidence concerning the earnings potential of a company and how effectively a firm is being managed. If the enterprise fails to make profit capital invested is eroded and if this situation prolongs the enterprise ultimately ceases to exist (Nishanthini & Nimalathasan,., 2013). The word profitability is composed of two words, namely, profit and ability. The term profit has been explained above and the term ability indicates the power of a business entity to earn profits. The ability of a concern also denotes its earning power or operating performance. The profitability may be defined as the ability of a given investment to earn a return from its use. Profitability is a relative concept whereas profit is an absolute connotation. As an absolute term, profit has no relevance to compare the efficiency of a business organization. A very high profit does not always indicate sound organizational efficiency and low profitability is not always a sign of organizational sickness. Therefore, it can be said that profit is not the prime variable on the basis of which the operational efficiency and financial efficiency of an organization can be compared. To measure operational efficiency and to measure the productivity of capital employed, profitability analysis is considered as one of the best techniques. Despite being closely related to and mutually interdependent, profitability and productivity are two different concepts. In other words, in spite of their generic nature, each one of profitability and productivity have a distinct role in business (Tulsian M, 2014).

2.2.1 Measurement tools of profitability:

As discussed and shown in many theories and studies the most important measurement of profitability of a company is ratio i.e. profitability of assets variously referred to as earning power of the company return on total investment or total resources committed to operations (Murthy V, 1978). According to Block and Hire (1978) “The income statement is the major device or measuring the profitability of a firm over a period of time. Some managerial decision like rising of additional finance, further expansion, problem of bonus and dividend payments rest upon this measurement. It can be measured for a short term and long term. Profitability provides overall performance of a company and useful tool for forecasting measurement of a company’s performance. The overall Objective of a business is to earn a satisfactory return on the funds invested in it, while maintaining a sound financial position, profitability measures financial success and efficiency of management. Profitability ratios are an indicator for the firm's overall

efficiency. It's usually used as a measure for earnings generated by the company during a period of time based on its level of sales, assets, capital employed, net worth and earnings per share. Profitability ratios measures earning capacity of the firm, and it is considered as an indicator for its growth, success and control. Accordingly, the term 'profitability' is a relative measure where profit is expressed as a ratio, generally as a percentage.(Rajkot, 1984. P-61)

2.2.2 Models of firm profitability

2.2.2.1 A model from Industrial organization

Firm profitability and its determinants are a well addressed research topic in the field of industrial organization. Modern literature provides two schools of competing models of firm profitability. Models of firm profitability can be classified into two major groups, structure conduct performance (SCP) and firm effect model (Stierwald, 2009) Structure conducts performance. In the SCP model the market structure determines firm behavior and profitability. The SCP model is embedded in neoclassical theory and asserts that firms in concentrated industries are more profitable than firms in perfectly competitive markets, see (Bain, 1951). A reason for that can be high industry concentration facilitates the exertion of market power, for example in the form of monopoly pricing. Colluding firms impose a higher markup on those goods with lower elasticity of demand without suffering the loss of demand to competitive rivals. The increased price allows firms to earn profits that exceed competitive rates. Due to the restricted quantity of supply, industry concentration and high profits are associated with sub-optimal welfare levels.(Stierwald,2009)

2.2.2.2 Firm effect models

In firm effect models, market structure is the result of the distribution of firms and firm profits. The fundamental assumption in firm effect models is that firms are heterogeneous. According to the superior firm hypothesis, introduced by (Demsetz, 1973) as cited by (Stierwald, 2009), firms can be distinguished with respect to their level of cost- or production efficiency. Efficient firms have a competitive advantage over their non-efficient rivals. Higher levels of cost-efficiency can be caused by lower costs of production, economies of scale or higher quality of products. In the Demsetz model, superior performance can exist for some period of time. Potential reasons for that can be the firm’s reputation, complex organizational structures, resource heterogeneity,

factor immobility or uncertainty of investments. Jamali H. and Asadi A.(2012) argues that only efficient firms survive, stay in the market, grow larger and obtain a higher market share. At the same time, efficient firms are more profitable than non-efficient ones. Peltzman (1977) asserts that high market concentration, in the form of high market shares, and high firm profitability occur simultaneously and are the result of the same cause, differences in productivity levels. Markets function competitively, and no collusion between firms takes place that restricts supply or enables firms to raise their price above marginal costs. For this reason, high firm profitability is not necessarily associated with welfare losses in firm effect models. There has been a substantial amount of empirical research undertaken in the area of profits, market structure and firm-level effects. (Stierwald, 2009) Taken together, the evidence suggests that both SCP and firm effect models are plausible. This implies that industry effects, such as concentration and entry barriers, and firm effects, such as productivity differences or strategic management, are empirically important. Depending on the study, firm-level or industry-specific effects are found to be the dominant factor on firm profitability (Stierwald, 2009).

2.2.2.3 A model from finance

Financial economists have also modeled and assessed firm profitability. Like members of the Chicago school, they tend to construct models in which markets are workably competitive. Nevertheless, in their models, returns to investing in assets such as firms vary considerably depending on the firms' characteristics. One characteristic that has been emphasized is systematic risk, where systematic means risk that is not diversifiable. Specifically, an asset with higher systematic risk should command a higher return (Slade, 2003).

2.3 The CAPM Model

The simplest model that embodies that notion is the capital asset pricing model or CAPM. Unlike the early IO models, the CAPM is derived from an equilibrium model of optimal decisions taken by economic agents. The CAPM explains why highly risky assets such as gold need not command high rates of return. Gold is a real asset whose return is not highly correlated with, for example, the return to holding a portfolio of stocks. Indeed, when the stock market is expected to plummet, it is not uncommon for investors to switch from financial into real assets. Such behavior leads to low risk premier and can even cause the return to holding real assets to be negatively correlated with rm. When this is the case, risk premia are negative. The CAPM

predicts that a firm's risk class, not the structure of the market within which it operates, determines profit rates. If there is any possibility that market structure or market share is correlated with systematic risk, it is important to use measures of risk as conditioning variables in tests of IO models (Slade, 2003). In addition, it is interesting to assess the relationship between risk and return in its own right. Many researchers from finance have attempted to assess the testable predictions of the CAPM. They tend to reject the model in its simplest form but find support for modified versions that include additional explanatory factors. Most of the factors that have been considered, however, are economy wide rather than market or firm specific (Slade, 2003).

2.5 Capital Structure

There are many methods for the firm to raise its required funds; the most basic instruments are stocks or bonds. The mix of the different securities is known as its capital structure, so it can be defined as the combination of debt and equity used to finance firms. Effective financial management and what characters affect their capital structure are important for firms to obtain better operational performance. A false decision about the capital structure may lead to financial distress and even to bankruptcy. Capital structure varies considerably across industries even vary within the same industries. What makes this difference? And Capital structure and firms‟ performance are the main issues in finance. In an attempt to answer this question in early years different scholars develop a number of theories and later these theories have been subject to empirical tests (Brigham, 2011).

2.5.1 Theory of capital structure

In explaining capital structure a number of theories have been developed. Among all these theories, MM‟s theory, static trade off theory, pecking order theory and agency cost theory are the most recognized which explains the formulation of capital structure.

2.5.2. Modigliani and Miller (MM) proposition I

This was the first published work which captured the attention of researchers. This was the most influential and effective financial article which is initially written by Professor Modigliani and Morton Miller (MM) in 1958. Some times this seminar presentation called leverage irrelevant theorem. According to MM proposition the nature of financing doesn't affect the firms' value

and it's financial position. Miller (1958) states that managers can decide to debt or equity financing for it's firm but under very restrictive assumptions that exclude transaction cost, tax payment, at perfect capital market and with a homogeneous expectation. This theory was criticized by many researchers due to its lack of credibility since no business can operate in an ideal environment and no one can generate revenue without incurring a cost. Even though some of MM"s assumptions are unrealistic, their result is important by indicating conditions in which capital structure is irrelevant.

Where: $VL=Vu$

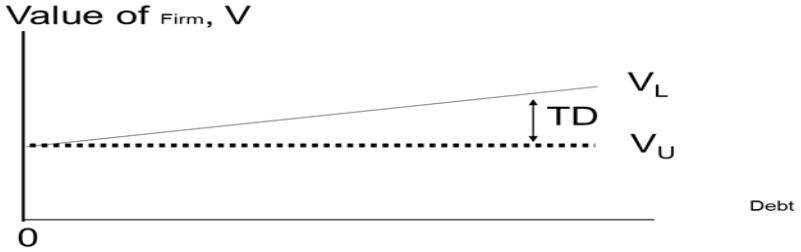
VL= Value of a levered firm

Vu= Value of an unlevered firm

2.5.3. Modigliani and Miller (MM) proposition II

In the firm's capital structure theory after postulating the irrelevant theory which rises criticism against them (Modigliani and Miller, 1963) review the earlier position and proposed a new version by incorporating tax benefit of debt financing in the firm capital structure. Since interest is tax deductible financial terms firms that pay interest on their debt to receive a partial offsetting interest which is called "tax shield" in the form of lower tax paid. Under this theorem even though on the initial work researchers argued that financial leverage is irrelevant on the financial performance to introduce the second way of looking that the value of a levered firm is equal to the value of identical un levered firm plus the value of tax effect. As sown on the following Figure 2.1 under MM with corporate taxes, the firm's value increases continuously as more and more debt is used.

Figure 2.1 MM's theory with tax



Source: Adopted from literatures

Under this assumption the present value (PV) of tax shield is equal to the corporate tax rate.

$$VL = VU + TD$$

Where:

VL: Value of levered firm

VU: Value of unlevered firm

T: Corporate tax rate

D: The amount of debt

2.5.4. Trade of theory

A trade off theory was stated by Myers (2001) the MM‟s result was based on one of the assumption that there is no bankruptcy cost. According to trade off theory debt financing not only produces tax benefit for the firm; but also it may lead to bankruptcy. The firm faces financial distress due to the extremely high-interest payment on their debt financing which may lead to higher probability of bankruptcy. The question is how to balance between the tax benefit and the bankruptcy cost which is an optimum capital structure. According to this theory using debt in the capital structure offers tax shield and in order to gain this advantage firms try to follow high level of debt however high level of debt increase the possibility of bankruptcy because firms couldn't repay their obligation as of their agreement with borrowing body. Trade off theory suggested that firms should keep their debt level at optimum debt benefit or tax advantage equals the cost of possible financial distress which is still the interest of business firms. But, a highly profitable firm may have high debt since less likely to be subject to bankruptcy risk. So debt financing is good but when optimized. In reality, the optimal level is not stable since bad circumstance normally occurs in the firm's environment as a result, the managers will struggle to adjust the level up to the optimal and it is a cyclic process. The target adjustment level in a simple form states that the changes in debt ratio are explained by the deviation of current debt ratio from the target. This model is expressed as a linear regression equation.

$$\Delta Dit = \alpha + \beta(Dit - Dit - 1) + \epsilon it$$

Where:

ΔDit = Adjustment debt ratio for firm i at time t,

Dit = Target debt ratio for firm i at time t,

$Dit - 1$ = Current debt ratio,

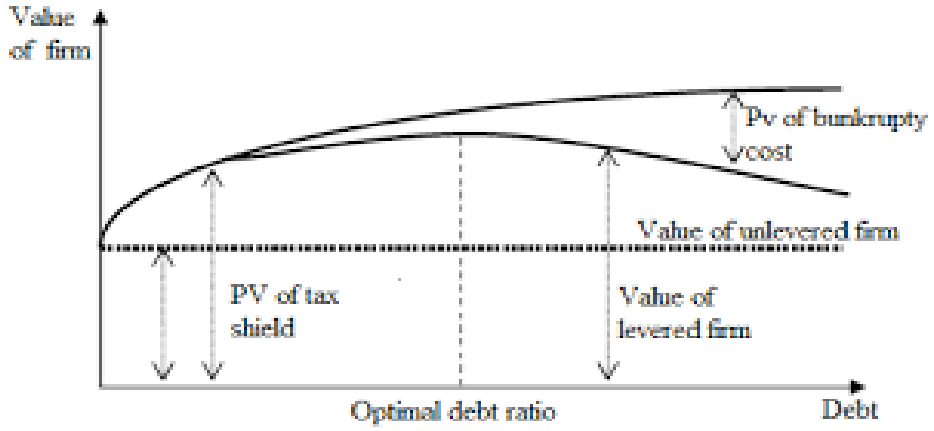
β = Target adjustment coefficient,

$\varepsilon it =$ Error term

A debt ratio of the gain due to tax shield is maximum but beyond that, the loss due to financial distress occurs. The hypothesis to be tested is $\beta > 0$ indicating the adjustment is towards the target, but also $\beta<1$ which implying positive adjustment costs. The task for managers is to calculate the target debt ratio or optimal level by using historical data then using it as the benchmark for judging the level of debt. The problem with this model is that each firm will have its own optimal level of debt since the amount of tax shield differ from one firm to another.

The figure 2.2 shows that the market value of a company with more debt increases up to a certain point (optimum). More debt above this point decreases the value of the company due to the cost of financial distress. It can be concluded that companies need to search for a balance between the tax benefit and cost of financial distress which gives the highest firm value.

Figure 2.2 static trade off theory



Source: Adopted from literatures

2.5.3.1. Empirical test on a trade of theory

Utilizing a data from Jordanian industrial listed firm Ramadan (2015) test the trade-off theory during the period 2000-2014. The researcher found that there was a direct relationship between firms‟ size and leverage this is in line with the trade-off theory because large firms finance their

needs of the fund through issuing debt rather than equity. And finally, conclude that Jordanian industrial firms partially follow trade-off theory.

2.5.4. Pecking order theory

The pecking order theory of capital structure is one of the most influential theories of corporate finance. This theory was postulated by (Myers, 1984). The theory focused on how firms management decides to finance the firms‟ operations. According to this theory debt financing is connect the company to the obligation of periodically meeting fixed interest charges and to the repayment of the principal which somehow become burden to the firm. The present of asymmetric information also leads mispricing of new securities. Investors generally perceive that managers are better informed of the price sensitive information of the firms. Investors‟ perception is such that managers issue risky securities when they are overpriced. This perception of investors leads to the under pricing of new equity issue. Sometimes this under pricing becomes so severe that it causes significant loss to the existing shareholders. To avoid such problems this theory suggested that firms‟ first use internally generated fund by reinvesting its net income and selling short-term marketable securities because there is no flotation cost or negative signal. When internal financing exhausted issued debt because it has lower flotation cost than equity and no negative signal. But the required fund is more than this issuing security is the final option. However, if they do require external financing they will issue the safest security first, showing that equity financing will be least favorable as compared to debt financing.

2.5.4.1. Empirical test on pecking order theory

In the past, the pecking order theory is tested by different researchers. For instance, in the article of Goyal (2003) Test the pecking order theory of corporate leverage on a broad cross-section of publicly traded American firms from the period of 1971 to 1998. The researchers finding showed that in contrary to the pecking order theory, net equity issues follow the financing deficit more closely than do net debt issues. Therefore, this research doesn’t support the pecking order theory. Khan (2015) test the pecking order theory of capital structure by taking a cross-section of 12,244 publicly traded corporations in the U.S. from the time period of 1999 to 2009 and observed that, there was stronger relationship between net equity issued and financing deficit than net debt issuance and financing deficit. Finally, conclude that there is limited evidence to support pecking order theory.

2.5.5. Agency theory

Many of the times there is conflict of in interest among manager and equity holders. These conflict is that; shareholders assume that managers do not spend the cash in the right way; this is due to the different interests. For any firm the goal of the managers is to find investments that will lead to the development of the company and add value. Because the more the company's growth, the more power for managers, because of the increasing resources. A developing company usually means a higher compensation for managers as well. Another reward for managers when they bring good work can be a promotion. Therefore, managers first investigate how they can increase their own wealth before thinking about the shareholders‟ interests. The equity/shareholders of the company want the manager to spend money in such a way that they will get the highest value or dividend for their investment in the shares of the company. To let the company, grow, investments must be made. Hence, managers use some of the money that can be paid as dividends for their own interest to expand the company's value (Jensen, 1976). According to Myers (2001) the free cash flow theory is developed due to a sensitivity of companies to overinvest. This is the case when firms have a large amount of cash flow but there is not enough profitable investment. Managers act in their own interests. Therefore, if there were no profitable investments left, managers would like to invest in unprofitable projects to do everything in their power to let the company grow. By borrowing money companies can prevent this threat, due to the lower amount of free cash flow that is available. Only this is not intended for companies with potential high profitable investments. It is not the intention that managers have no free cash flow to spend on profitable projects (Jensen, 1976). Agency costs can be described as the costs that are needed to monitor and control the managers of the company (Myers, 2001). The management acts as an agent for the shareholders to invest their money in the right way. To control that whether the money is invested in the right way or not, costs must be made, because of the different perceptions and interest of the managers (Jensen, 1976). Another threat that leads to agency costs is underinvestment; this is the case when companies need to invest in low risk assets by means of the debt agreement. The problem is that even if the asset has a positive NPV, only the debt providers will get their money due to the low return which has been provided with the asset. This leads to a conflict between the shareholders and debt providers. To control the manager's not investing into risky projects agency cost must be made (Myers, 1984)

Table 2.2 Summary of theoretical proposition

S No.	Theories	The effect of increase in debt
1	MM‟s proposition I& II	Debt has no effect under the assumed conditions
2	Trade of theory	Debt has negative effect on profitability if not optimized
3	Pecking order theory	Debt has negative effect on profitability
4	Agency cost theory	Debt has positive effect on profitability

Source: researcher compilation

2.6. Empirical studies on the impact of leverage on profitability

This section examined the studies conducted to investigate the impact of leverage on the profitability of financial firms and non-financial firm. Therefore, only relevant studies conducted in this area are examined. Methodology, year of study and the outcome of it is summarized to observe their harmonization with the theories explained above. Comparison between the outcome of these studies and the claim of the theories will be established in order to see their implication.

2.6.1. Empirical studies on manufacturing companies

Elangkumaran (2013) Investigate the impact of leverage on earning per share and share price. The study uses 20 sampled companies listed on the Colombo Stock Exchange (CSE) in Sri Lanka for the period from year 2007/2008 to 2011/2012. Again the study used Degree of Operating Leverages (DOL), Degree of Financial Leverage (DFL) & Degree of Combined Leverage (DCL) as the independent variables and Earning per Share (EPS) and Share Price (SP) as the dependent variable. Linear regression and correlation coefficient are the main tools used to measure the variables. The finding of this study revealed that only 4% earnings can be explained by DOL, DFL, and DCL and there is no significant relationship with EPS. It is also found that 3% SP is attributed by DOL, DFL, and DCL and there is no significant relationship with SP. Therefore, as of this study leverage has no significant impact on the earning capacity of the listed companies in CSE, in addition, the results indicated that firm which has high leverage were less risky than low levered firm.

Obigbemi I.et al (2016) studied on financial structure that finance mix is a major factor that affects the liquidity and the going concern of a business enterprise. This study states there is need

to analyze the capital required for startup and means of financing the project initially before project is begin. This study reveal that a good combination of sources of finance or best mix of debt and equity is expected to boost the profitability and value chain activities of an organization, but if not properly mixed, could have a negative effect on the profitability of the organization. The main objective of this study is to evaluate the effects of financial structure on the profitability of manufacturing companies in Nigeria. Secondary data was used as a data source. For analysis purpose a study used Spearman's Rank correlation and regression techniques. Using the STATA Package for a sample of 25 manufacturing companies quoted on the Nigerian Stock Exchange for the period 2008-2012. Finally the finding from regression analysis of the study indicates that equity has a significant positive relationship with the profitability of manufacturing companies in Nigeria. Again the researcher recommended that managers of those manufacturing companies should place greater emphasis and due care on the facilitation of equity capital and again a policy makers should encourage manufacturing companies by reducing the cost of debt financing.

The study of leverage and its relationship between profitability in India manufacturing companies by (Kumar 2014). The research indicates as the performance of the India manufacturing companies is satisfactory and the India manufacturing companies is employing fewer debt funds so it can't get the financial leverage benefits during the study period. In this study the researcher states with regard to profitability and leverage relationship analysis, the researcher observed that degree of financial leverage positively correlated with the return on investment but it was not at optimum level; the degree of operating leverage is a statistically significant positive correlation with the return on investment. Moreover, degree of combined leverage is positively correlated with return on investment of India manufacturing firms. The study recommended to manufacturing companies to revises its capital structure which should include the optimum blend of equity and borrowed funds so that it has a positive impact on Return on Investment.

A study by Nadeem and Zongjun (2011) on firms in manufacturing industry of Pakistan; this study result reveal that profitability, liquidity, earnings volatility, and tangibility as firm specific variables related to the debt ratio negatively, whereas firm size is positively associated with debt level of firms investigated. Furthermore, those researcher also found that Non-debt tax shields

and growth opportunities were insignificant in determining financing decision of manufacturing firms in Pakistan.

Mishra and Gupta (2011) on their evidence from Indian public sector manufacturing companies; found that the capital structure as measured by total debt ratio was affected by Asset tangibility, Profitability, growth, and Tax factors. Their study results also uncover growth and tangibility to have direct relationship with debt level while profitability and tax appeared negative association with the dependent variable of leverage. Beyond this this study emphasized on that other variables of non-debt tax shield, earnings volatility, and size were found to be weak for determining financing decision of public sector manufacturing firms in India. Saxena (2016) Investigated whether high financial leverage has a significant and positive impact on firms value. Eleven sampled companies which have more than fifty present of debt ratio in their capital structure and listed on Indian stock exchanges, for the time period of 2001-2015 were used in their study. Descriptive analysis; correlation test and multiple regression analysis were used in this study. Return on equity was a dependent variable representing the firms‟ value and debt ratio and debt to equity ratio were independent variables as a proxy for financial leverage. The study revealed that debt ratio has a low degree of positive correlation with (ROE) whereas debt to equity ratio has a negative relationship with (ROE) therefore financial leverage has either very low degree of positive correlation or negative correlation. As a weakness this study model shows only 16.4 percent of the dependent variable (ROE) was explained by the independent variables debt ratio and debt to equity ratio which is unreliable to provide an arguments about the results of the study.

Khaled and Hazem (2015) on their study investigated that the determinants of profitability for industrial firms in Oman. This study uses a sample of 17 industrial companies listed on Muscat securities market covering the period from 2006 till 2013. The study applied the panel ordinary least squares model and the result of this study reveal that there was a positive and statistical significant relationship between profitability, firm size, growth, fixed assets and working capital. On the other hand, the average tax rate and the financial leverage variables show a negative relationship with profitability. Finally this study result shows that large growing firms with efficiently managed assets improve revenue and ultimately enhance profitability.

A study by Emeka (2014) assessed the impact of materials management on the profitability of Nigeria brewing firms. The main objective of this research is to investigate whether there is

effective and efficient materials management in Nigeria brewing firms and the extent to which it has contributed to their profitability. The study took the population of 4648 as being the total staff strength of Nigeria Breweries and Guinness Nigeria PLCs. From to population a sample size of 368 were selected. Materials inventory, Materials procurement, materials storage and interdepartmental collaboration were used as variables of materials management while profit before tax, return on equity, earnings per share, tax paid and dividend paid were used as profit indicators to ascertain the profitability of organizations under the study. As a method of data collection questionnaire and oral interviews was major instrument. Simple percentages were used to analyzing the data collected from the questionnaires and oral interviews. Finally the following finding were detected: materials procurement, materials storage, materials inventory and interdepartmental collaboration have significant contribution to the profitability of brewing firms. Based on the above findings, the researcher concludes that effective material management is indispensable to brewing firms in making profits.

Nishanthini and Nimalathasan(2013) study the profitability of listed manufacturing companies in Sri Lanka. In order to meet the objectives of their study, data were collected from secondary sources mainly from financial report of the selected companies, which were published by Colombo stock exchange in Sri Lanka. According to their result the profitability of manufacturing companies is less satisfactory. On their basis of outcome and analysis, selected manufacturing companies has different ranking based on each profitability indicators such as Gross Profit Ratio (GPR), Operating Profit Ratio (OPR), Net Profit Ratio (NPR), Return on Investment (ROI), and Return on Capital Employed (ROCE). Based on the Gross Profit Ratio, Operating Profit Ratio, Net Profit Ratio, Royal Chemical Plc is at first whereas Chevron Lubricants Plc is at first based on ROI, ROCE. They suggest on their outcome is that the study is beneficial to academicians, policy makers, practitioners and so on.

Alayemi (2013) examined the relationship between asset utilization and cooperate efficiency a case study of food and beverage industry on the Nigerian stock exchange. This study had an objective to find out the relationship between asset utilization and cooperate efficiency in addition to six objectives achieved by the study. The used the population of all firms in food and beverage industry quoted in Nigerian stock exchange. Stratified sampling technique was applied out of 21 companies selected for the study. A study adopted Ex-post facto research design and collected secondary data from the sampled companies for a period of five years from2007-2011

using STATA 12. To analyze the data multiple regression was used to determine the magnitude and statistics. The result of the study showed that there is no significant relationship between return on asset and debtors' turnover.

Mary and David (2012) evaluated the Nigerian brewing industries and discovered the problem facing brewery companies the growing trend of input costs which erodes business profit and as such leads to constant shut down of brewery factories in Nigeria. Given the important contributions of the brewery sector to the Nigerian economy, their research deems it necessary to evaluate the effect of input costs on the profitability of brewing firms in Nigeria. They gathered a cross sectional data for the analysis from the annual reports of the sampled brewery firms for a period of 1999 to 2010. Measures of profitability are examined and related to proxies for the inputs cost assumed by brewers. The Ordinary Least Squares (OLS) stated in the form of a multiple regression model was applied in the analysis. Their study revealed that the focal variable RSGAE (Ratio of Selling and General Administrative Expenses) designed to capture the effect of a company's operating expenses on profitability is statistically positive and impacts on profitability of the brewery firms in Nigeria. Therefore, cost of sale is a major factor to be contained with by Nigerian brewers in enhancing or boosting their profitability.

Jamali and Asadi (2012) investigated: the relationship between management efficiency and firms' profitability for a sample of 13 auto manufacturing companies listed on the Bombay Stock Exchange, located in Pune for the period of 5 years from 2006 to 2010. Management efficiency is an important component of corporate financial management because it directly affects the profitability of the firms. Considering the importance of profitability for the survival of a business and the role of efficient management to achieve this aim, they explored the relationship between management efficiency and profitability in Automobile Industry of India. For the purpose of the study, 13 auto manufacturing companies are located in Pune were chosen as the sample and their analysis is carried out using Minitab 14 and conducting Pearson Coefficient correlation test on variables of the study including Gross Profit Ratio (GPR) and Assets Turnover Ratio (ATR). The central conclusion of this study is that profitability and management efficiency are highly correlated to each other and based on their results recommendations for improving the management efficiency and profitability in this industry are suggested.

2.6.2 Empirical studies on manufacturing companies in Ethiopia

Asrat (2016) Studied the relationship between capital structure and financial performance of cement companies in Ethiopia for the period over 2010-2014. The researcher used return on asset (ROA) and return on equity (ROE) to measure financial performance, debt to equity ratio (LTDTE) as a measure of capital structures and control variables such as: tangibility (TAN), capital adequacy (CA), liquidity (LOGLQ), size, gross domestic product (GDP) and business risk were employed in this study. Explanatory research design is applied in this study. In connection to this, a sample of 8 cement companies was taken and secondary data was collected from the audited financial statement of the selected cement manufacturing companies. The result of random effect multiple regressions showed that capital structure measured by long-term debt to equity ratio (LTDTE) has a significant positive relationship with return on asset (ROA). Beside this, capital structure measured by a logarithm of long-term debt to equity ratio (LOGLTDTE) has a significant negative relationship with return on equity (ROE) Finally the researcher concludes that an appropriate mix of the capital structure should be adopted in order to increase the financial performance of cement companies in Ethiopia.

Endale,T. (2015) assessed impact of working capital management and firm's performance in the case of Breweries in Ethiopia. The study used secondary data obtained from audited financial statements of two Brewery firms registered and work in Ethiopia. The financial statements from the firms were analyzed to determine the effect of cash conversion cycle, inventory conversion period, daily sales outstanding and daily payables outstanding on the gross operating profit and analyzing the data applying SPSS Software. Estimation equation by both correlation analysis and pooled panel data regression models of cross-sectional and time series data were used for analysis. A study result revealed that there is statistically insignificant negative relationship between inventory conversion period, daily sales outstanding, daily payable outstanding and the profitability of the firms. Also, there is statistically insignificant positive relationship between cash conversion cycle and profitability. According to the results of study, it is suggested that breweries' can increase profitability by maintaining an optimal level of working capital. Hence the study concluded that there is no significant relationship between and no strong influence or impact of working capital management on profitability of Breweries in Ethiopia.

Khanfar (2014) conducted a study to identify the financial leverage ratio and the rate of return on investment on profitability for sources of the funding in tourism companies operating in Jordan.

The results indicate financial leverage has statistically significant impact on profitability of the Tourism companies. Anton (2016) also studied the impact of leverage on firm growth in periods of economic growth and economic uncertainty using data from sample of 63 Romanian listed firms on the Bucharest Stock Exchange over the period 2001-2011 and several alternative measures for firm growth such as sales growth, assets growth, and employment growth and total liabilities to total assets as a measure of leverage were used. The results of fixed effects regression model show that the leverage has a positive effect on firm growth. Furthermore, this study shows that highly leveraged firms grow faster as lower leveraged firms during the period examined. Olang (2017) also conduct a research on 66 listed firms in Nairobi Stock Exchange (NSE) by taking 30 of them using purposive sampling technique in order to investigate the effect of financial leverage on the profitability. In this study, descriptive and inferential statistics technique were employed to analyze data. The study revealed that firm size has a statistically significant effect on profitability. Liquidity and growth opportunity, on the other hand, have no significant effect on the profitability of firms.

2.6.3. Empirical Studies on financial Sectors

A study conducted by Zafar (2010) in order to analyze the leverage position of Indian banking industry and its impact on EPS, its risk and return and profitability. For the purpose10 year data from 2000-01-20009-10 of ten Indian banks were taken, result reveals that there is a significant relationship between Degree of combined leverage and EPS and Degree of Operating leverage and EPS. But there is no relationship between financial leverage and EPS. A research on how profitability of insurance firms in Ghana influenced by working capital management and leverage by Gatsi (2013) using 18 firms and taking the current ratio as representative of working capital management policy and financial leverage and operating leverage as the benchmark for capital structure using panel data methodology, found that, financial leverage has a significant negative effect on the profitability of the insurance companies; operating leverage has a positive and statically significant influence on profitability; further supplementary analysis was also undertaken to assess the impact of premium growth, GDP and firm size on profitability. Gweyi (2014) Investigate the effect of the financial leverage on financial performance of deposit taking SACCOS in Kenya. For the purpose 40 sampled Savings and Credit Co-operative Societies (SACCOS) registered by SACCO Society Regulatory Authority (SASRA) extended

from the period 2010 to 2012 were taken. In connection, secondary data from the financial statements of the various deposit-taking SACCOS and both descriptive and analytical design were adopted. The results show that there was a positive correlation between financial leverage (DE) with financial performance (ROE). Research by Wabwile (2014) to analyze and compare performance amongst tier 1 commercial banks listed on NSE (asset base above 100 billion) in relation to their financial leverage. Specific indicators were used to measure and compare variance in their performance were profitability Return on assets (ROA) and Return on capital employed (ROCE), the growth of the firm Earnings per share (EPS) and Dividend yield (DY) and value of the firm Price-book value (PBV) was used. In addition, person correlation analysis and regression analysis were used to the correlation of data, F-test, Durbin Watson test, adjusted R2, the mean and standard error of the data. The finding indicated that debt ratio increases, it means the banks‟ most assets are being financed by both long-term and short-term liabilities and hence the return on such assets as well as that on capital employed is reduced to provide for the outstanding liabilities. This examination found a negative correlation between debt asset ratio and the EPS. Edson (2015) in the study of examine the relationship between the financial leverage and commercial bank's profitability in Tanzania. For the purpose, the researcher used secondary data from audited financial statements of listed commercial banks at Dares Salaam Stock Exchange (DSE) over the time period 2007 to 2013. Descriptive statistics and regression analysis were employed in this study. Both Return on Average Asset (ROA) and Return on Average Equity (ROE) were used as a tool to determine the bank's profitability and bank financial position with independent variable measured by Debt Ratio (DR). The study found that change of debt amount in the capital structure has a negative effect on return on average asset and a no-effect on return on average equity.

There are also other researchers in Ethiopia they investigate the relationship between capital structure and commercial banks profitability. For instance: Hailu (2015) study the impact of capital structure on profitability of core business operations of commercial banks in Ethiopia. To address the objectives quantitative panel data methodology obtained from the audited financial statements of eight commercial banks and National Bank of Ethiopia for the period of twelve years (2001/02 – 2012/13) were used. In addition, for the data analysis panel data fixed effect estimation model was applied. The researcher observed that 89% of the total capital of commercial banks in Ethiopia in the period under study was made up of debt. Of this, 75%

constitute deposit and the remaining was non-deposit liabilities. This has reaffirmed the fact that banks are highly levered institutions. The findings revealed that capital structure as measured by total debt to asset had statistically significant negative impact, whereas deposit to asset had statistically significant positive impact on profitability of core business operations of commercial banks. Moreover, loan to deposit, spread and asset size also had statistically significant and positive relationship with profitability. However, growth found to have statistically insignificant impact on profitability. Finally, the researcher recommended that, banks should give due consideration to manage their debts properly, mobilize deposit sufficiently, increase loan advances, spread, and size in their financing decisions. Furthermore, banks also advised to reduce non-deposit debt financing and raise equity financing so that to keep costs of financing at minimum level and hence optimize profitability and the value of banks. Besides, Tamirat (2015) conducted a study on the effects of debt financing on profitability of Commercial Banks in Ethiopia. For this purpose, sample of eight commercial banks secondary data and primary data over the study period of twelve years (2002-2013) were taken. In connection return on asset (ROA) to measure the profitability, debt to asset ratio, debt to equity ratio and interest coverage ratio as a measure the level of debt on the capital structure of the institution and control variable (firm size) were used. On the basis of findings using panel data analysis technique, the researcher documented that independent variables had a positive relationship with profitability and statistically a significant.

2.7. Conclusions and Research Gap

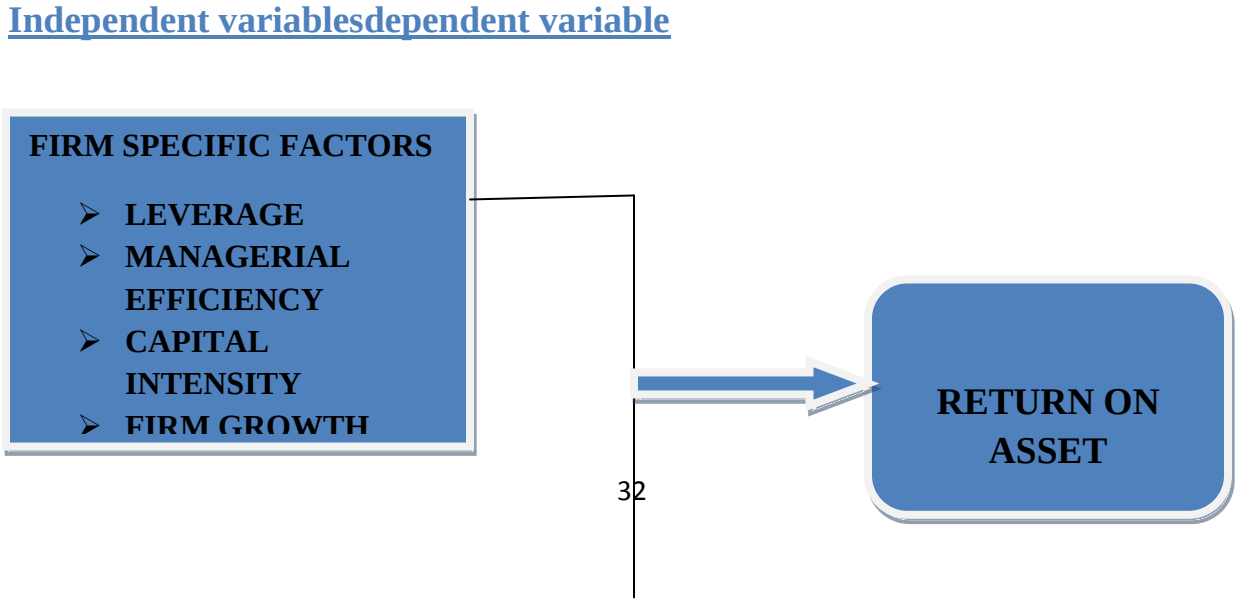
The concept of leverage, in general, is used in breakeven analysis and in the development of the capital structure of a business firm. Operating leverage refers to the percentage of fixed costs that a company has. Firms with high operating leverage are very sensitive to changes in sales and it affects their earnings before interest and tax quickly. Financial leverage refers to the amount of debt in the capital structure of the business firm. Investors in a business prefer the business to use debt financing but only up to a point. Beyond a certain point, investors get nervous about too much debt financing as it drives up the company's default risk. A number of modern capital structure theories were developed following the publication of capital structure irrelevance framework by Miller (1958) they argued that a firm value couldn’t change with changing its capital structure. A later study in 1963 by M&M concluded that by including corporate tax, the

market value of the firm is increased and the overall cost of capital is reduced since interest is tax deductible expense (Miller, 1963). Those studies were conducted by undertaking different assumptions, which fit into the Particular situation. Trade-off theory, pecking-order theory, agency-theory and some other theories are empirical evidences that challenge Modigliani and Miller‟ capital structure studies in relation to these theories scholars postulate empirical tests. Various empirical studies reviewed in this chapter have further revealed the opposing views of researchers on the issue of leverage and firms' performance. In Ethiopia, as far as the knowledge of the researcher, there are a few types of researches conducted about capital structure, but those researchers have entirely emphasized on investigating determinants of capital structure and the impact of capital structure on firm's performance. Even though there were studies on capital structure and firms' profitability, most of them are focused on effect of capital structure and determinants of firm profitability. Hence there is no empirical study in Ethiopia concerning the relationship between leverage (operating and financial) and firm's performance in the context of the medium tax payers' food and beverage manufacturing companies. Therefore, this study addresses the knowledge gap on the effect of leverage on profitability of medium tax payers' food and beverage manufacturing companies' in Addis Ababa.

2.8. Conceptual Framework

After carefully reviewed the theoretical and empirical literature those concentrated on leverage and firms' profitability, the following conceptual model is formulated to investigate the relationship between leverage and profitability of medium tax payers' food and beverage manufacturing companies in Addis Ababa.

Figure 2.3 Conceptual frame works





Source: researcher compilation from the literatures.

The variables used to develop the above conceptual framework were in reference to: Zafar (2010); Habtamu (2012); Amdemikael (2012); Elangkumaran (2013) and Gatsi (2013).

CHAPTER THREE

RESEARCH METHODOLOGY

The aim of this chapter is to discuss the research methodology adopted in this study, Research methodology is the science and philosophy behind all research. It goes into the heart of how we know, what we know and allows us to understand the very strict constraints placed upon our concept of what knowledge actually is (Kothari, 2004). This chapter explains the methodology uses in collecting or gathering data, coding, classifying and analyzing the data as well as reporting the results of the study and organized into five sections. The first section presents research approach. This is followed by a brief discussion on research design used in this study in the second section. Third section deals with the nature of population of the study, sample and sampling techniques. The fourth and fifth sections show, respectively the type and source of data, method of data collections and data analyzing techniques. The last section discussed variables measurement and evolution of hypotheses.

3.1 Research Approaches

When conducting a research, there are different ways of approaching the problem. According to (Creswell W. , 2008), there are three approaches of research; qualitative, quantitative and mixed. The following discussions briefly presents the basic features of these research approaches.

Qualitative research approach: is a research approach in which a researcher collects a data themselves through examining documents, observing behavior or interviewing participant. In this research approach researcher typically gather multiple forms of data rather than rely on a single data source. Then the researcher reviews all of the data, make sense of it and organize it into categories or themes that cut across the entire data source (Cresswell, 2008). The process of research involves emerging questions and procedures, data typically collected in participant's setting, data analysis inductively building from particular to general themes and the researcher making interpretations of the meaning of the data. For this a kind of research approach a final written report has a flexible structure.

Quantitative research approach: is an approach in which researcher tests a theory by specifying narrow hypothesis and the collection of data to support or refute the hypothesis (Cresswell, 2008). It is a means of testing objective theories by examining a relationship among

variables. These variables, in turn, can be measured. Typically on instruments, so that numbered data can be analyzed using the statistical procedure. For this kind of research approach, a final research report has a set structure consisting of introduction, literature and theory, method, result, and discussion (Cresswell, 2008). Quantitative kind of research approach helps to test theories deductively, building in protection against bias, controlling for alternative explanations, and being able to generalize and replicate the finding.

Mixed research approach: is an approach which involves philosophical assumption, the use of both qualitative and quantitative approaches and mixing of both approaches in the study. Thus, it is more than simply collecting and analyzing both kinds of data; it also involves the use of both approaches in tandem so that the overall strength of a study is greater than either qualitative or quantitative research (Cresswell, 2008).

3.2 Research Methods Adopted

The quantitative research approach was adopt in this study because; it is based on the measurement of quantity or amount and it is the use of quantitative tools and techniques that emphasize measuring and establishing possible relationships that existed among the identified independent variables and the dependent variable. The quantitative research approach is also applicable to phenomena that can be expressed in terms of quantity and means of testing objective theories (hypothesis) by examining a relationship among variables which is a likelihood of data nature used in this study (Cresswell, 2008). All variables which are used in this study had a quantitative nature. These variables, in turn, can be measured typically on instruments so that, numbered data will be analyzed using statistical procedure (Cresswell, 2008). In addition, the quantitative research aspect also involves the use of multiple regression and correlation. In this study leverage and other control variables were regressed against firms profitability to find an association of a relationship that is existed between dependent and independent variables. Even though, each approach has its own objective and application time, in the selection process one should take into account the nature of research problem or issues being addressed, the researcher' personal experience and the audience for whom the report presented. Therefore, in this study the quantitative research approach was used due to quantitative nature of the data employed. A secondary source type of data was used in this study. How well the model fit the data also described. Descriptive statistics, which will calculate from

a sample of data and inferential statistical analysis, are also used. The regression was subject to OLS basic assumption such as zero mean, homoscedasticity, multicollinearity, autocorrelation and normality tests.

3.3 Population of the study

The target population of this study is food and beverage manufacturing companies operated in Addis Ababa considered as medium tax payer category. Currently, there are twenty eight (28) food and beverage manufacturing companies operating in Addis Ababa under the medium tax payer's category (ministry of revenue 2019). Out of these seventeen (17) were classified under manufacturing of food and eleven (11) were from beverage manufacturers. Likewise, all of them were privately owned (ministry of revenue 2019).

3.4 Sample and sampling technique

To carry out a study, one might bear in mind what size the sample should be, and whether the size is statistically justified and lastly, what method of sampling is to be used" (John, 2011). In line with balanced panel data, to meet the desired objective of this study and to make a generalization from sample to population, the researcher uses a maximum combination of years and number of medium tax payer's food and beverage manufacturing companies and achieved the maximum number of observations through the following sampling technique. In order to have some representative sample for this study, the researcher used different stages of sample restriction criterion. First, to be included in the sample frame the firm must be medium tax payer food and beverage manufacturing companies in Addis Ababa. Firms with incomplete financial statement or no financial statement for the study period covering from 2011/12 up to 2017/18 G.C. where excluded from the sample frame. The sample firms are determined using the sample size determination formula that developed by (Yamane, 1967). During the time of data collections, 28 firms were recorded by the Ethiopian ministry of revenue as medium tax payer's food and beverage manufacturing Company in Addis Ababa. Out of them only 26 firms are workable populations for this study purpose since they have audited financial statement (balance sheet and income statement) for at least eight consecutive years (2011/12 to 2017/18). The remaining two companies are new and have the age of only two and three year and excluded from total population since they does not fulfill the required criteria. Let the margin of error be 5% which balances type one and type two errors with 0.5 proportion of success that gives the

maximum possible sample size given the amount of population(Cochran, 1977). The value of Z-score at 5% margin of error is 1.96, taking this information the optimum sample size is around 12 firms. To allow the researcher to obtain sufficient data for calculating the representative from each firm eight year is assumed to be relevant because five years and above is the recommended length of data to use in most finance literatures (Ayele.).

Based on the formula of (Yamane, 1967) the sample size was calculated s follow:

$n = N/(1+N(e^2)$ where n= sample size

$= 26/ (1+26(0.0025)$ N= total population

$= 24.4$

In circumstance, where there are small population elements the sample will be equal to the population in such case we can adjust the sample calculated by the formula:

$n = n / (1+(n/N))$

$= 24/ (1+(24/26))$

$= 12.4 \approx 12$

Therefore, out of the 26 companies the researcher randomly selected 12 medium tax payers' food and beverage manufacturing companies as sample size because the researcher believed that given the nature of the study taking sample size more than this will become unmanageable. In addition, random sampling technique was used in order to give equal chance for each medium tax payers' manufacturing companies and the observations of the sample can be used for inferential purpose as stated in (Jonker,& Pennink,).

3.5 Types and Source of Data

As noted in Gujarati (2009) there are three types of data available for empirical analysis namely: time series, cross-section, and panel or pooled (i.e., a dimension of both time series and cross section) data. The nature of data used in this study enables the researcher to uses panel data type. Hence, in this study balanced panel data (companies have the same number of observations) were used. Since panel data has the combination of both cross-sectional and time-series it is more useful data as it captures individual variability (cross-sectional information), and captures dynamic natures of the data (time-series information) and it ensures more variability, more degrees of freedom, more efficiency, and less collinearity among variables (Gujarati, 2009). According to Saona, (2011) cited in Tamirat (2015) the main advantage of using panel data is

that it allows overcoming of the unobservable, constant, and heterogeneous characteristics of each manufacturing companies included in the study. Even though each has its own strength and limitation there are two sources of data namely: primary and secondary source (John Adams, 2007). In order to gather the required information which attains the research objectives, only secondary data (annual audited financial statements) was collected and used.

3.6. Data Collection Method

Once the research design including sampling plan formalized the coming phase is how to collect a data. In this study, secondary data was used to meet the stated objectives. The audited financial statements for this study was gathered from Ethiopian ministry of revenue medium tax payers' and ERCA for sampled medium tax payers' food and beverage manufacturing companies in Addis Ababa within eight year period from 2011/2012 up to 2017/2018.

3.7. Method of Data analysis

Data analysis is the coming task following the data collection. "The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data-groups" (Kothari, 2004). Hence, statistical techniques such as descriptive statistic and regression will performed to analyze the data to be collected. The descriptive statistic used to determine the minimum, maximum, mean and standard deviation. The regression analysis applies to find the causal relationship between leverage measures and profitability measure. For this purpose, Eviews 8 econometric software package was used.Besides this, as noted in(Brooks, 2014) there are assumptions required to confirm that the ordinary least square (OLS) estimation technique and also hypothesis tests concerning the coefficient estimates could genuinely be conducted. If these Classical Linear Regression Model (CLRM) assumptions hold, then the estimators determined by OLS have a number of desirable properties and are known as Best Linear Unbiased Estimators (BLUE). Therefore, diagnostic tests were performed to ensure whether the assumptions of the CLRM are violated or not in the model. Thus, the following section discusses the nature and significance of the model misspecification tests.

3.7.1. Test for Heteroscedasticity {E (ui2) = σi2}

According to Brooks (2014), it has assumed that the variance of the error term is constant (homoscedastic). To test the presence of heteroscedasticity, one can use different detection

methods. Like a graphic method, Goldfield–Quandt (1965) test, in this study the popular test white‟s (1980), general test for heteroscedasticity will employed. This test involves testing the variance of the errors is constant (homoscedasticity) or not. The formulated hypothesis for Heteroscedasticity test is: H0: There is no Heteroscedasticity problem in the model. H1: There is Heteroscedasticity problem in the model. $\alpha = 0.05$ Decision Rule: Reject H0 if the p-value is less than significance level. Otherwise, do not reject H0.

3.7.2. Test for Autocorrelation

There is an assumption that the errors are linearly independent of one another. If the errors are correlated with one another, it would be stated that they are auto correlated. To test the existence of autocorrelation, the Breusch–Godfrey test is a more general test for autocorrelation. Because, it allows examination of the relationship between error and several it‟s lagged values at the same time. If the test statistic exceeds the critical value from the chi-squared statistical tables, reject the null hypothesis of no autocorrelation. The formulated hypothesis for autocorrelation test is as follow: H0: There is no autocorrelation problem in the model. H1: There is autocorrelation problem in the model. $\alpha = 0.05$ Decision Rule: Reject H0 if p-value less than significance level. Otherwise, do not reject H0.

3.7.3. Test for Multicollinearity

The problem of multicollinearity usually arises when certain explanatory variables are highly correlated. To test the independence of the explanatory variables or to detect any multicollinearity problem in regression model the study will uses a correlation matrix of independent variables.

3.7.4. Test for Normality {ut ~ N (0, σ2)}

As noted in Brooks (2014) a normal distribution will thus have a coefficient of excess kurtosis of zero. One of the most commonly applied tests for normality is Bera-Jarque (1981) testing whether the coefficient of skewness and the coefficient of excess kurtosis are zero. BJ also states that, if the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant at 5% significant level. The formulated hypothesis for normality test is as follow: H0: Error term is normally distributed H1: Error term is not normally

distributed α = 0.05 Decision Rule: Reject H0 if p-value of JB less than significance level. Otherwise, do not reject H0

3.7.5 Variables and evolutions of hypothesis

In study of factors determining firm performance different authors point different variables as the determinants of firm profitability. Some the studies such as (Stierward A 2009), (shahem A 2012), (Weldemikael S 2012), (Nishentin and Nimala 2013),and (Navad A and Zongjm 2011), employ a variables such as leverage, liquidity, firm size, growth, and macroeconomic variable (inflation) as a main factors which determine firm profitability. Those researchers states that leverage and inflation has negative significant effect on a firm profitability. While firm size, liquidity and growth has significant positive effect on firm profitability. Other researchers such as (Bridge 1998), (Ezeoha 2011, Purnanandam 2004, Sahut and Mill 2011) are focusing on other factors; such as gross domestic product (GDP), tangibility, capital intensity, managerial efficiency, and asset utilization as mostly determinants of firm profitability factors. Accordingly, insight of prior researches, to determine the effect of leverage on profitability the mostly dependent variable/s used is ROA (return on asset) and ROE (return on equity). According to literature regardless of the dependent variable use (ROA or ROE), the factors that are mostly meant to determine firm profitability can be: leverage, liquidity, managerial efficiency, gross domestic product (GDP), tangibility, firm size and firm growth, inflation, capital intensity and etc. Therefore, Leverage, capital intensity, managerial efficiency, firm growth and inflation are selected as explanatory variables for this study based on the existing literature. Before formulating the hypotheses for this study it's necessary to review the relationship of leverage and other related independent variables has with dependent variable from the prevailing research literatures. Based on the explanatory variables selected the following 5 (five) hypotheses were developed. The subsequent discussion shows the evolution of those hypotheses from the view of different theories and reviews of literature exists in an area discussed above in chapter two.

Leverage: Leverage is a variable used to examine the effect of change in leverage on the firms' performance, and it's defined as the use of various financial instruments or borrowed capital to increase the potential return of an investment (Saleh, 2015). This study argued that changes in leverage also have a significant effect on firm's performance; financial firms should use their

debt financing more efficiently in order to maximize their returns and performance. Saleh (2015) suggested that financial leverage is the most important determinant of companies' performance. Kumar (2014) in the study of leverage and its relationship between profitability in Bata India; With regard to profitability and leverage relationship analysis, the researcher observed that leverage negatively correlated with the ROA but it was not at optimum level; in addition, Asrat (2016) Studied the relationship between capital structure and financial performance of cement companies in Ethiopia for the period over 2010-2014 and finding stated that, capital structure measured by logarithm of long term debt to equity ratio (LOGLTDTE) has significant negative relationship with return on equity (ROE). Gatsi (2013) also found that, leverage has a significant negative effect on the profitability of the insurance companies in Ghana. Foong (2012) suggested that leverage is negatively associated with firm performance, however, there is a significant interaction effect between leverage and product diversity on firm performance. Furthermore, in this study profitability was expected to have a negative relationship with leverage, in line with pecking order theory as well as majority of empirical evidences. Here the study hypothesized that:

Hypothesis one. Leverage has a negative significant effect on medium tax payer's food and beverages manufacturing companies' profitability.

Firm growth: Olang (2017) conduct a research on 66 listed firms in Nairobi stock Exchange (NSE) by taking 30 of them using purposive sampling technique in order to investigate the effect of leverage on the profitability. The study revealed that, firm growth has a statistically significant effect on profitability.Hailu (2015) again study the impact of capital structure on profitability of core business operations of commercial banks in Ethiopia. The finding of these study also indicates that, growth have statistically significant impact on profitability. A study by Amdemikael (2012) examines the bank-specific, industry-specific and macro-economic factors affecting bank profitability and states that firm growth has statistically significant and positive relationship with banks' profitability. But, study by Nadeem and Zongjun (2011) on firms in manufacturing industry of Pakistan; also found that Non-debt tax shields and growth opportunities were insignificant in determining financing decision of manufacturing firms in Pakistan. Again Mishra and Gupta (2011) on their evidence from Indian public sector manufacturing companies; found that firm growth were found to be weak for determining a level of profitability of public sector manufacturing firms in India. There was a contradicting result

regarding a relation among firm growth and firm profitability. However, based on the above arguments here the study hypothesized that:

Hypothesis two:firm growth has a positive significant effect on profitability of medium tax payer's food and beverages manufacturing companies in Addis Ababa.

Managerial efficiency: Aburime, (2008) prevailed that there is positive relationship between management efficiency and profitability of banks. This positive relationship shows that firms with high management efficiency ratio have high probability of profitable than others. Dimitris & Maria (2007) also found a positive relationship between expense management and profitability. Therefore, the researchers expect a positive relationship between management efficiency and profitability of food and beverage manufacturing companies. Again**,** Jamali and Asadi (2012) investigated on their paper that: the relationship between management efficiency and firms' profitability for a sample of 13 auto manufacturing companies listed on the Bombay Stock Exchange, located in Pune for the period of 5 years from 2006 to 2010. This study reveals that, management efficiency is an important component of corporate financial management because it directly affects the profitability of the firms. The central conclusion of their study is that profitability and management efficiency are highly correlated to each other. Again Dawit, (2017), Sufian et.al, (2008) and Suzuki et.al, (2011) revealed that, an increase (decrease) in expenses reduces (increases) the profits of manufacturing company. Hence, the increased efficiency i.e. reducing operating expense will result in higher profitability for the companies. Hazan (2015) conclude on their study that large growing firms with managerial efficiency improve revenue and ultimately enhance profitability and firm profitability and managerial efficiency has a positive significant relationship in the long run. Taking into account the above discussion here the study hypothesized that:

Hypothesis three: Managerial efficiency has positive and significant effect on profitability of medium tax payers' food and beverages manufacturing companies in Addis Ababa.

Capital intensity: Adebayo (2013) examined the relationship between asset utilization and cooperate efficiency a case study of food and beverage industry on the Nigerian stock exchange. A study had an objective to find out the relationship between asset utilization and cooperate efficiency in addition to six objectives achieved by the study and used the population of all firms in food and beverage industry quoted in Nigerian stock exchange. The result of this study

hypothesis showed that there was a significant relationship among asset utilization and cooperate efficiency. Lee & Xiao (2010) also examined the potential curvilinear relationship between capital intensity and firm value for the US hospitality industry, specifically including publicly traded US Hotels and restaurants, during the period 1990-2008.Their study performs a pooled regression analysis to examine the proposed relationship. The sampled companies are from the period 1990-2008, consisting of 281and 1,406 observations for the hotel and restaurant industries, respectively. Their study additionally performs the analysis for the 1990s and the 2000s separately for a comparison purpose. Their findings support the U-shaped relationship between capital intensity and firm performance during the 2000s for both hotels and restaurants. Based on the above literatures, here the study hypothesized that:

Hypothesis four: capital intensity has positive and significant effect on profitability of medium tax payers' food and beverages manufacturing companies in Addis Ababa.

Inflation: inflation is a macroeconomic variable which was used in this study. There is a widespread perception that macroeconomic stability shows the strength of an economy and provides a degree of certainty of being able to operate profitably (Balasubramanyam, 2001). According to (Kevin et at, 2001) cited in (Yohannes, 2014); inflation is expected to exert a negative effect on profitability when inflation costs increase faster than companies income. It is the actual scenario we observing in Ethiopia this day. On the other hand, again (Tadesse, 2017) and others were not found a statistically significant relationship between profitability and inflation. In addition again Naceur (2003) and Ayadi and Boujelbene (2012) concluded that the macroeconomic variables, economic growth and inflation, do not have a significant effect on profitability. Sufian and Chong (2008) study results suggest that inflation has a negative impact on profitability, while Amdemikael A. (2012) in his study states that relationship of inflation and profitability is found to be statistically insignificant. Based on the above literatures, here the study hypothesized that:

Hypothesis five: Inflation has negative and significant effect on profitability of medium tax Payers' food and beverage manufacturing companies in Addis Ababa

3.8. Variables and Measurement

3.8.1. Dependent Variable (profitability measure)

The financial performance is the dependent variable and measured by the return on assets (ROA) and return on equity (ROE). The reason for choosing return on asset (ROA) variable as a proxy of financial performance measurement in this study is that, it shows the percentage of profit that a company earn in relation to its overall resource (total asset). ROA is key profitability ratio which measures the amount of profit made by a company per dollar of its asset. This is probably the most important single ratio in comparing the efficiency and performance of firms whether it is manufacturing, service and financial sectors as it indicates the returns generated from the assets that firm owns. These measures could be classified as profit performance measures and investment performance measures. However, most researchers stated that the key indicator of a firm's profitability is ROA defined as the after tax profits divided by total assets. (Babalola, 2013)(Harshada J, 2012)(Shaheen A, 2012); And (Agarawal,R. and Zhao,X., 2007) are among the researcher which used ROA in their previous study. Return on asset calculated by the following formula:

ROA= Net income after tax

Total asset

3.8.2 Explanatory Variables

This subsection describes the independent variables in the econometric model to estimate the dependent variables. Following prior researchers towards the leverage and firm profitability, the independent variables are classified into leverage proxies and control variables. Moreover, these subsection present hypotheses, by offering the expected sign of the coefficients, based on academic literature.

Leverage (Lev): A company is described as levered if it is financed partly through debt simply because of the tax shield element of debt. But, debt carries a fixed financing cost, which means that if the company increases its debt the degree of financial leverage also increases (Gatsi, 2013) It is a financial ratio that indicates the percentage of a firm's assets that are financed with debt. The Leverage (Debt) Ratio is measured as follow in this study:

Leverage Ratio= Total Liabilities
Total Asset

Control variables: There are a number of factors that affect the profitability of medium tax payers' food and beverage manufacturing companies rather than leverage; this is the reason for control variables are including in the model. In this study, the researcher used explanatory factors those have a significant effect on profitability of sampled food and beverage manufacturing companies under prior literature such as firm growth, managerial efficiency, capital intensity and inflation as a control variable

Managerial Efficiency (MEF): - The ratio of asset turnover (efficiency ratio) was used to measure managerial efficiency and the higher the ratio the higher the managerial efficiency. The total asset turnover ratio is a general efficiency ratio that measures how efficiently a company uses all of its assets. This gives investors and creditors an idea of how a company is managed and uses its assets to produce products and sales.

Managerial efficiency= Total revenue
0Total asset

Firm Growth: -In this study growth of the medium tax payers' food and beverage companies' asset is measured by the percentage change in total assets of food and beverage companies.

Growth= (Asset t-Asset t-1) X 100
Asset t-1

Capital Intensity: -describes the amount of plant, property, equipment, inventory and other tangible or physical assets required to generate a unit of sales revenue. We quantify this characteristic by using the ratio of a company's total assets divided by revenue.

Capital intensity =Total Asset
Total Revenue

Inflation rates (IR): The annual inflation rate will use.

Variables measure and expected signs

Variables		Measurement (proxy)	Source	Expected sign
Dependent variable	Return on Asset	Net income after tax/total asset	(Zeitun, R., Tian, G., 2007), (Salteh, H. M., Ghanavati, E.,	N/A

	(ROA)		Khanqah, V. T., & Khosroshahi, M. A., 2009)	
Independent variables	Leverage	Total debt/total Asset	Mohammed and Islam (2017) and Hailegebreal (2016)	Negative
	Firm growth	Percentage change in total asset	(Hutchinson, M. &Gul, A, 2006)	Positive
	Managerial efficiency	Total revenue/total asset	Thomas et a. (2011)	Positive
	Capital intensity	Total Asset/ total revenue	Demirguc, A., Kunt and Maksimovic, v., 2001), (Deloof, 2003)	Positive/negative
	Inflation	Annual inflation		Negative

3.8.3 Model specification

To meet the objective of the study and to find out the impact of leverage on private commercial banks profitability in Ethiopia, the model used by (Gatsi, 2013) and (Patel, 2014) with some modification by including relevant variable is used. The modification is to include ROE as a dependent variable, bank size and operational efficiency were control variables. The general model is:

$$Yit = \alpha\beta Xit\mu it$$

Where:

Yit = is the dependent variable

α = Constant term

β = is the intercept.

Xit = is the independent variable.

μ= are the error terms.

i = is the number of firms and

t = is the number of time periods.

The subscript "i" representing the cross-sectional dimension and "t" denote the time-series dimension. Based on the above general model the impact of leverage on profitability of large food and beverage manufacturing companies is examined using the model outlined below;

ROA it = α + β2Lev it + β2MEit + β3CAPINT it + β4GROWit+ β5IR it + μt

Where:

ROA it= Dependent variable return on Asset of company i at time t

Lev it: Leverage of company i at time t

MEit: Managerial efficiency of company i at time t

CAPINT it: capital intensity of company i at time t

GROWit: firm growth of company i at time t

IR it: Inflation rate of company i at time t

β1, β2, β3, β4 and β5 = the parameters that were estimated

μt = is the error term

According to Brooks (2008), when omitting a relevant independent variable, including an unnecessary variable or choosing the wrong functional form, so that regression model will be wrongly predicted. If the omitted variable is correlated with the included variable, the estimators are biased and inconsistent. If the omitted variable is not correlated with the included variable, the estimators are unbiased and consistent. Ramsey RESET test will use to see whether the developed model is correctly regressing. To test this following hypothesis is formulated:

H0: the model is correctly specified

H1: the model is not correctly specified

α = 0.05 Decision Rule:

Reject H0 if p-value is less than significance level. Otherwise, do not

CHAPTER FOUR

RESULTS AND DISCUSSION

In the preceding chapter the research methodologies employed in this study were presented and discussed in detail. In this chapter the collected data are presented, interpreted and analyzed using E-views 8. Therefore, the purpose of this chapter is to present results and analysis of data involved in the study. Accordingly, the descriptive statistics of all the variables used in this study and the results of hypothesis testing i.e. the estimated parameters of the regression equation, their significance, the connection between the independent variables and dependent variable according to the sign and the value of the parameters (coefficients) for the regression model are presented and discussed in detail. This chapter is classified into two sections. The first section, section 4.1 presents about a result of the data. In this section result of descriptive statistics of the dependent and independent variables, correlation result and regression results are presented. While a second section, section 4.2 discusses a regression output.

4.1 Results

This section presents the result of the study. First, it presents the descriptive statistic; this is followed by correlation result in section 4.1.2 and regression result in a section 4.1.3

4.1.1 Descriptive Statistics

As clearly mentioned in earlier chapter, in this study descriptive statistic used to determine minimum, maximum, mean and standard deviation. The following table 4.1 provides a summary of the descriptive statistics of the dependent and independent variables for the period of 8 years from year 2011/12-201718 with a total of 96 observations. This was generated to give overall description about data used in the model. The central idea of descriptive statistics for a given study is measurement of location and variability. The central value of the variables denoted by location is measured mean, whereas the spread of the data from mean denoted by variability is measured by standard deviation. If the observations for a given set of data follow a normal distribution, then the mean and variance are sufficient to entirely describe the series (Brooks, 2014).

Table 4.1 Summary of descriptive statistics of dependent and independent variables

	ROA	LEV	ME	CAPINF	INF	GROW
Mean	0.105606	0.493461	0.318556	1.305798	0.134500	0.098674
Median	0.089920	0.469135	0.304219	1.066052	0.094500	0.075640
Maximum	0.339377	0.975470	0.672910	3.548370	0.341000	0.634240
Minimum	-0.073280	0.132818	0.017389	0.147964	0.072000	-0.271240
Std. Dev.	0.096556	0.229004	0.159247	0.730073	0.085786	0.138292
Observations	96	96	96	96	96	96

Source: E-views 8 output

As shown in chapter three, return on asset was used as a profitability measure of medium tax payer's food and beverage manufacturing companies for this study. ROA is calculated as profit after tax divided by total asset. For the total sample, the mean value of return on asset was 10.5% with a minimum of -7.3% and a maximum of 33.93%. This indicates that, sampled medium tax payers food and beverage manufacturing companies, generate the average return on asset of 10.5% during the study period. The most profitable medium tax payer's food and beverage manufacturing companies earned 33.93 cents return from each birr of asset invested. On the other hand, the maximum loss incurred by sampled medium tax payers food and beverage manufacturing companies is -7.3 cents for each birr of asset invested. The standard deviation of return on asset was 0.0965 which implies that the volatility of return on the asset from the mean value that indicates the profitability of medium tax payers' food and beverage manufacturing company operating in Addis Ababa varies from the mean by 9.65% during the study period.

Regarding the explanatory variables, the descriptive statistics indicates that medium tax payer's food and beverage manufacturing companies under the study period have the mean value and standard deviation of leverage (Debt to Asset) is 0.4934 and 0.229 respectively. This implies that there were moderate differences among leveraged level as measured by debt to asset ratio across the sampled food and beverage companies under this study; and it also indicates those food and beverage companies are moderately levered because they used a 4% less from average borrowed funds to finance a company's operation. This show that medium tax payers food and beverage manufacturing companies with high degree of leverage, the more its profits will vary with a given percent change in total asset this tends to be associated with increasing systematic risk.

LEV had the medium standard deviation (0.229004). This indicating that leverage shows medium fluctuating trend than other variables. It is also found that the tendency of company profit too enormous with higher income.

Again, it is indicative from above table, that the managerial efficiency (ME) has the mean value and standard deviation of (0.318556) and (0.159247) respectively. Therefore, there exists moderate variation among the managerial efficiency across the sample food and beverage companies included in this study. The mean value 0.31 indicates that sampled food and beverage companies are efficient because their operating expense per unit of operating income is high , which means a 31% of gross profit related to operating income shows on average the company's profitability is the contribution of managerial efficiency. The maximum and minimum managerial efficiency were 0.6729 and 0.0173 respectively. In addition the relatively range between minimum and maximum value implies that the most managerial efficient has a reasonably large cost advantage compared to the least managerial efficient sampled food and beverage manufacturing companies.

The mean value of capital intensity is 1.3 with the standard deviation of 0.73 which shows high Variation. This high variation implies the firm invested large amount of money in order to get one dollar worth of output. As noted by Shaheen and Malik (2012) the more capital applied to produce that same unit the more capital intense the firm is said to be. Hence considering to this study the high variation of standard deviation from its mean, as well as the high variation among maximum which is 3.54 and minimum of 0.14 shows that medium tax payers food and beverage manufacturing companies had classified into those industries considered to be more capital intensive. The average inflation that occurred over the years is 13.4 percent with the standard deviation of 0.085. This indicates that there was significant variation in inflation within the study period cover. The maximum and minimum inflation over the year were 34.1 and 7.2 percent respectively. The mean value of Growth is 0.09 and the value of standard deviation is 0.13 this implies that there were no significant variations among the level of growth as measured by the change in total assets over the years across the sampled food and beverage companies. The maximum growth the company uses its asset to generate profit was the value of 63 percent and the minimum growth was -27.12 percent.

4.1.2 Correlation Results

The correlation between two variables measures the degree of linear association between them. If it is stated that y and x are correlated, it means that y and x are being treated in a completely symmetrical way. Movements in the two are on average related to an extent given by the correlation coefficient (Brooks, 2008). To find the association of the independent variables with dependent variables Pearson Product Moment of Correlation Coefficient was used in this study. Correlation coefficient between two variables ranges from +1 (i.e. A perfect positive relationship) to -1 (i.e. A perfect negative relationship) and a correlation coefficient of zero, indicates that there is no linear relationship between the two variables (Brooks 2014).

Table: 4.2 Correlation result among dependent and independent variables

Dependent variable	Independent variables				
	LEV	ME	GROW	CAPINT	INF
ROA	-0.058061	0.499197	0.271333	0.401636	-0.096390

Table 4.2 above, shows the correlation coefficient between the dependent variables and independent variables. Among the independent variables managerial efficiency, capital intensity and firm growth are positively correlated with ROA with positive correlation coefficient of 0.499197, 0.401636 and 0.271333 respectively. While the leverage and inflation are negatively correlated with ROA; with a weak negative correlation coefficient of -0.058062 and -0.096390 respectively. Generally when we see the sign and magnitude of explanatory variables; anyone can understand/ interpret as LEV ratio and INF rate have a negative association with ROA of medium tax payers' food and beverage manufacturing companies. On the other hand managerial efficiency, capital intensity and firm growth are positively correlated with return on asset of medium tax payers' food and beverage manufacturing companies. From these entire signs and magnitudes leverage, managerial efficiency, firm growth and inflation has sign as expected. All of these variables have a significant relationship with ROA, except firm growth and inflation rate.

4.1.3 CLRM Assumptions and Diagnostic Test

In this study as mentioned in chapter three diagnostic tests were carried out to ensure that the data fits the basic assumptions of classical linear regression model. Hence, the following sub

sections discuss the results of the diagnostic tests (i.e., heteroscedasticity, autocorrelation, multicollinearity and normality test) and model specification test and Hausman test that ensure whether the data fits the basic assumptions of classical linear regression model or not.

4.1.3.1 Zero mean: {E (ut) = 0}

According to Brook C. (2014) it required that the average value (mean) of the errors is zero. In fact, if a constant term is included in the regression equation, this assumption will never be violated. Since there is constant term "α" in the regression model it could conclude that the mean value of the errors is zero.

4.1.3.2 Test for Heteroskedasticity{E (u_i^2) = σ_i^2}

The classical assumption required for the OLS estimator to be efficient state that, the variance of error term has to be constant and the same for all observation. This is referred to as a homoskedastic error term. When that assumption is violated and the variance is different for different observation we refer to this as Heteroskedasticity, if the assumption of constant variance is violated, the standard errors could be wrong and hence any inferences made could be misleading. In general, the OLS standard errors will be too large for the intercept when the errors are heteroscedastic. In order to test the following hypothesis White's (1980) general test for heteroscedasticity were applied. The hypothesis for the Heteroskedasticitytest was formulated as follow;

H0: There is no Heteroskedasticityproblem in the model.

H1: There is Heteroskedasticityproblem in the model.

$\alpha = 0.05$

Decision Rule: Reject H0 if p-value less than significance level. Otherwise, do not reject H0.

Figure 4.1 result of heteroskedasticity test

Heteroskedasticity Test: White

F-statistic	1.781500	Prob. F(5,90)	0.1246
Obs*R-squared	8.645653	Prob. Chi-Square(5)	0.1241
Scaled explained SS	7.499354	Prob. Chi-Square(5)	0.1861

Source: E -views 8 output

As per the results of the test stat of the above figure all the F-stat, $\chi 2$ ('LM') and scaled explained SS versions of the test statistic, give the same conclusion that there is no evidence for

the presence of heteroscedasticity, since the p-values of all test stat are considerably in excess of 0.05 (see **appendix I** for more information). Therefore we don't reject the null hypothesis of the constant variance of the residual.

4.1.3.3 Test of Assumption of no Autocorrelation/Serial Autocorrelation Test

Assumption 3 that is made of the CLRM's disturbance terms is that the covariance between the error terms over time (or cross-sectionally, for that type of data) is zero. In other words, it is assumed that the errors are uncorrelated with one another. If the errors are not uncorrelated with one another, it would be stated that they are 'autocorrelated' or that they are 'serially correlated'. A test of this assumption is therefore required. The main test for the existence of autocorrelation is by using Breusch-Godfrey test and the following hypothesis was formulated to test autocorrelation.

H0: The errors are uncorrelated with one another

H1: The errors are correlated with one another

Figure 4.2 test of autocorrelation test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	13.50061	Prob. F(2,88)	0.1111
Obs*R-squared	22.53990	Prob. Chi-Square(2)	0.1197

Source: E -views 8 output

The BG test which is shown in the above figure 4.2 clearly presents the absence of autocorrelation hence the null hypothesis of there is no auto correlation is not rejected as per the p-value of 0.1111 and 0.1197 for the F-statistics and Obs*R-squared respectively. (See **Appendix II** for detail).

4.1.3.4 Assumption of Multicollinearity

Another assumption that needs to be examined is whether any multicollinearity exists, which means that two or more independent variables are correlated to each other. This is important due to the fact that multicollinearity among the variables decreases the reliability of the results (Stock and Watson, 2007).If there is no relationship between the explanatory variables, they would be said orthogonal to one another. If the explanatory variables were orthogonal to one another,

adding or removing a variable from a regression equation would not cause the values of the coefficients on the other variables to change. As a rule (rule of thumb), if the correlation coefficient is above 0.75, we should suspect of multicollinearity problems among independent variables (Gujarati, 2004). As one can see from the below table a maximum correlation value among explanatory variable is 0.25 (among INF and GROW) which is even lower than 0.75, a minimum value to judge the existence of multicollinearity among variables. So we can conclude that there is no evidence of multicollienarity.

Figure 4.3 Correlation Matrix between independent variables

	LEV	ME	CAPINT	GROW	INF
LEV	1.000000				
ME	0.130163	1.000000			
CAPINF	-0.047453	0.181203	1.000000		
GROW	0.107810	0.000440	0.148851	1.000000	
INF	-0.101509	-0.105911	-0.254904	0.255044	1.000000

Source: E -views 8 output

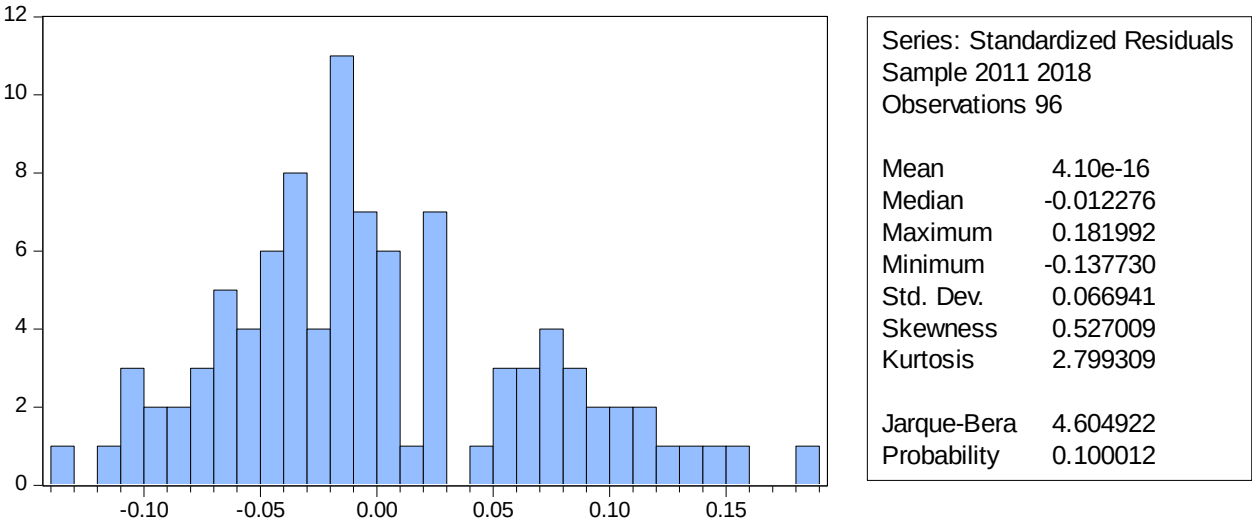
4.1.3.5 Test of assumption of Normality

Final assumption of OLS that needs to be evaluated is whether the residuals are normally distributed in order to achieve a valuable sample to analyze (Wooldridge, 2013). Residual is the gap between the actual dependent variable and the estimated dependent variable and this residual should be normally distributed. Normality is mainly violated by outliers and sample size. Extreme values, or so-called outliers, in the sample can give biased results and should therefore be dealt with (Stevens, 1984; Pallant, 2010).One of the most commonly applied tests for normality is the Bera—Jarque (hereafter BJ) test.Null hypothesis in Jarque-Bera test is that the data have been normally distributed. BJ uses theproperty of a normally distributed random variable that the entire distribution is characterized bythe first two moments the mean and the variance. One of the assumptions of linear regression analysis is that the residuals are normally distributed, at mean zero and standard deviation of one.If the residuals are normally distributed, the Bera–Jarque statistic would not be significant. Thismeans that the *p*-value given at the bottom of the normality test screen should be bigger than0.05 to not reject the null of normality at the 5% level (Brooks, 2008).The hypothesis of the normality test was formulated as follows:

H0: Error term is normally distributed

H1: Error term is not normally distributed

Figure 4.4 normality test result



Source: E -views 8 output

As can be seen in the above figure the P-value of Jarque-Bera (JB) test is 0.100012 which is higher than 0.05 (5%) hence the null hypothesis that the data is normally distributed could not be rejected.

4.1.4Model Specification Test

The assumption of the CLRM that the econometric model used in the analysis is correctly specified has two meanings. The first is since the model is correctly specified, there is no equation specification error and the second is no model specification error. The model specification error exist due to omission of an important variable(s), inclusion of unnecessary variable(s), incorrect specification of the error, adoption of wrong function form and error of measurement in the regress and regressor. When the appropriate variables are omitted from a model, the OLS estimators of the variables retained in the model are biased and inconsistent. In addition to the above, the variance and standard error of these coefficients are incorrectly estimated. As a result, including of irrelevant variables in the model are also that the estimated variances tend to be larger than necessary, thereby making for less precise estimation of the parameters. That is, the confidence intervals tend to be larger than necessary (Gujirati, 2009). Therefore, in order to select a correct estimated model, the researcher has carried out the Ramsey-RESET Test to check on the model specification. The hypothesis of the model specification test formulated as follows;

H0: The model is correct.

H1: The model is incorrect.

$\alpha = 0.05$ Decision Rule:

Reject H0 if p-value less than significant level. Otherwise, do not reject H0

Table 4.4 Result of Model Specification Test

Ramsey RESET Test

Equation: UNTITLED

Specification: ROA C LEV GROW ME CAPINF INF

Omitted Variables: Squares of fitted values

	Value	Df	Probability
t-statistic	1.133389	89	0.2650
F-statistic	1.284571	(1, 89)	0.2650
Likelihood ratio	1.483411	1	0.2232

Source: E -views 8 output

From the tab le 4.4 above, do not reject the null hypothesis (H0) since the P-values of t-statistics, F-statistics and likelihood ratio are 0.2650, 0.2650 and 0.2232 respectively are greater than the significant value. Therefore, it can be concluded that the model is correctly specified.(see **Appendix IV** for detail),

4.1.5Model Selection: Random versus Fixed Effect Model

There are broadly two classes of panel data estimator approaches that can be employed in empirical research: namely, fixed effects models and random effects model. According to Brooks C. (2014); it is often said that the random effect model is more appropriate when the entities in the sample can be thought of as having been randomly selected from the population, but a fixed effect model is more plausible when the entities in the sample effectively constitute the entire population. The question is which model is more appropriate fixed effect model or random effect model in this research models. In order to select the appropriate model, the researcher used Hausman test. The Hausman test that examines whether any unobserved omitted variables are uncorrelated with the included explanatory variables. If they are uncorrelated, a random effects approach can be used; otherwise, the fixed effects model is preferable. The null hypothesis for

this test is that unobservable heterogeneity term is not correlated or random effect model is appropriate, with the independent variables. If the null hypothesis is rejected then we employ Fixed Effects method (Brooks C., 2014).

Figure 4.5 hausman test result

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.107600	5	0.5340

Source: E -views 8 output

According to above figure 4.5 Hausman test shows, the P-value is 0.5340 (see **Appendix v** for detail), which is more than 5% level of significance. The conclusion from the above Hausman tests results is that the null hypothesis of the random effects does not reject at 5 percent significant level. This implies that for this research random effect model is more appropriate than fixed effect model.

4.2 Regression Result Analysis

In this part the regression result has been presented. The following linear regression was developed on variables considered in the model to test the effect leverage has on profitability of medium tax payers food and beverage manufacturing companies in Addis Ababa

ROA it = α + β2LEV it + β1GROWit + β3 CAPINT it+ β5 INF it + β6 MEF it + μt

The main focus of the study is the regression results between leverage and profitability. But, few additional independent variables which have an effect on profitability of those sampled companies were considered in the model to serve as a control variables. Under the following regression output, it is common to find the beta coefficient to be negative or positive. The beta value indicates that each variables level of influence on the dependent variables. The P-value indicates at what percent or precision level of each variable is significant. The R-squared value measures how well the regression model explains the actual variations in the dependent variables (Brook, 2014).

Figure 4.6 regression result

Dependent Variable: ROA

Method: Panel EGLS (Cross-section random effects)

Date: 12/02/19 Time: 13:43

Sample: 2011 2018

Periods included: 8

Cross-sections included: 12

Total panel (balanced) observations: 96

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.118725	0.041713	2.846218	0.0055
LEV	-0.089450	0.041761	-2.141935	0.0349
GROW	0.090861	0.046328	1.961253	0.0529
CAPINT	0.056864	0.009936	5.723193	0.0000
INF	-0.063489	0.070325	-0.902795	0.3690
ME	0.331808	0.069116	4.800714	0.0000

Effects Specification		
	S.D.	Rho
Cross-section random	0.049589	0.5188
Idiosyncratic random	0.047754	0.4812

Weighted Statistics			
R-squared	0.704875	Mean dependent var	0.034037
Adjusted R-squared	0.677368	S.D. dependent var	0.067150
S.E. of regression	0.048545	Sum squared resid	0.212093
F-statistic	18.35446	Durbin-Watson stat	1.628228
Prob(F-statistic)	0.000000		

Source:own computation on Eviews

Note: at 5% Significant level (see appendix VI for detail)

The linear function for the study regression equation is denoted as below;

ROA=0.118-0.089LEV+0.09GROW+0.056CAPINT-0.063INF+0.33ME

The panel random effect estimation regression result in the above figure 4.6 shows coefficient intercept (c) is 0.118725. This means, when all explanatory variables took a value of zero, the average value ROA would take 0.118725 unit and statistically significant at 1% of significance level. The leverage had a negative and statistically significant relationship with profitability (p-value = 0.0349) at 5% significance level. Whereas, firm grow had a positive and statistically insignificant relationship with profitability with (p-value of 0.0529) at 5% significance level. Moreover, regarding the others variables, the result shows that managerial efficiency statistically significant (p-value = 0.0000) at 1% significance level and had a positive relationship with profitability. Similarly, capital intensity as measured by ratio of total asset divided to sale is statistically significant (p-value = 0.0000) at 1% significance level and had a positive relationship with profitability. While the macroeconomic factor inflation is insignificant (p-value = 0.3690) even at 10% confidence level. Besides, it is desirable to have some measure of how well the regression model actually fits the data. Quantities known as goodness of fit statistics is available to test how well the sample regression function fits the data that is, how 'close' the fitted regression line is to all of the data points taken together. The most common goodness of fit statistic is known as R-squared. The coefficient of determination in this model is given by R-squared of 0.704 and Adjusted R-squared of 0.673. It indicates that the changes in the independent variables explain 67.73% of the changes in the dependent variable. That means leverage, firm growth; capital intensity, managerial efficiency and inflation collectively explain 67.73% of the changes in return on asset. While the remaining 33.27% of the change in independent variable is explained by other factors which are not included in this study model. Finally, the result also indicates that the regression F-statistic takes a value 18.35 with the p-value of zeros attached to the test statistic shows that the null hypothesis that all of the slope parameters are jointly zero should be rejected.

4.3Summary of findings

The previous sections of the chapter presented the overall results of the study. Beside, this section also presents discussion of the detail analyses of the results for each explanatory variables and their impact on medium tax payers' food and beverage manufacturing companies'

profitability. Additionally, the discussion evaluates the statistical findings in relation to the previous theoretical and empirical evidences. Therefore, the following discussions present the relationship and impact of explanatory variables on profitability.

Leverage and profitability

From figure 4.6 it can be observed that the coefficient of leverage which is measured by the ratio of total debt divided to total asset was the smallest negative coefficient (-0.089450) as compared to other variables and p-value of 0.0349. This shows that holding other things remain constant a 1 percent increase in leverage will result in 8.9 percent decrease in profitability, statistically significant at 5 percent significance level. The P-value of 0.0349 implies that the null hypothesis is not rejected. Negative coefficient of leverage result shows that debt financing has a negative impact on profitability of the medium tax payer's food and beverage manufacturing companies in Addis Ababa. This is supported by literatures in capital structure (pecking theory). The result of this study is also consistent with the pecking order theory which postulates a negative correlation between the profitability and leverage (Myers and Majluf, 1984). Beside, a negative relationship between leverage and profitability was observed in the previous empirical studies, for example, Weldemikael (2012), (Gatsi, 2013), (Aragaw, 2015), (Edson, 2015) and (Taani, 2013). But it contrasts the empirical evidence by (Zubairi, 2010), (Gweyi, 2014). The result is also buttressing that profitable firms uses pecking order theory in its financing, the more profitable a firm is, the more likely they are going to reduce its debts hence internal financing is preferred.

Firm Grow and profitability

The result reveals that firm growth had positive relationship with profitability, and statistically insignificant (p value = 0.0529) at 5 percent confidence level, and it was not in accordance with the expected sign. As a result, the null hypothesis that there is significant relationship between firm growth and profitability of medium tax payers' food and beverage manufacturing company is rejected. For this reason the results are inconsistent with the hypothesis of the study. the result of the study implies that a medium tax payers' food and beverage manufacturing companies having more and more assets over the years have a less chance of being profitable because they have high internal investment which make them to pay more than to save. The result is similar with finding of Abdelkader D. (2014), Nadeem and Zongjun (2011), Mishra and Gupta (2011) and Abate G (2012) which found a positive and statistically insignificant relationship between

firm growth and profitability. While Khaled and Hazem (2015) in their study which investigated the determinants of profitability for industrial firms in Oman; states there was a positive and statistical significant relationship between profitability and firm growth. In addition according to agency theoryto let the company grow, investments must be made. Hence, managers use some of the money that can be paid as dividends for their own interest to expand the company's value (Jensen, 1976). Again according to Myers (2001) the free cash flow theory is developed due to a sensitivity of companies to overinvest. This theory sates that, firm growth may have insignificant effect on firm profitability in the case when firms have a large amount of cash flow but there is not enough profitable investment.

Managerial efficiency and profitability

Managerial efficiency is the proportion of total organization resources that contribute to productivity during the manufacturing process. The higher this proportion the more efficient the manager. The more resources wasted or used during the production process, the more efficient the manager. Profitability and management efficiency are usually taken to be positively associated such that poor current profitability may threaten current management efficiency and poor management efficiency may threaten profitability. The coefficient of total revenue to total asset ratio, which provides information on the management efficiency regarding expenses relative to total income, was positive and statistically strongly significant at 1 percent significance level (p-value = 0) with a positive coefficient (0.3318). This result implies that a 1% percent increase in total revenue to total asset ratio, leads to 33% increase in profitability. This is in line with a prior expectation and makes the variable an important determinant of medium tax payers' food and beverage manufacturing company profitability. This finding was consistent with many previous studies, e.g. Dawit, (2017), Sufian et.al, (2008) and Suzuki et.al, (2011). It can be revealed that, an increase (decrease) in expenses reduces (increases) the profits of medium tax payers' food and beverage manufacturing company. Hence, the increased efficiency i.e. reducing operating expense will result in higher profitability for the companies. Again the efficiency structure hypothesis states that the performance of the firm is positively related to its efficiency, which means efficient firms increase in size and market share because of their ability to generate higher profits, which usually leads to higher market share. Finally the result of this study implies that, management of medium tax payers' food and beverage companies are

efficiently utilize their resources and greatly contributed to improvement of companies' profitability.

Inflation and profitability

Inflation the only micro variable used in this study has a coefficient of -0.063489and p value of 0.3690. The negative sign is as expected; this is due to behaviors of the companies not immediately adjusting of themselves for change in inflation. The beta coefficient indicates that holding other things constant if the inflation increase by 1% then profitability is on average decrease by 6.3% and their relationship is statistically insignificant even at 10% significant level. According to (Kevin et at, 2001) cited in (Yohannes, 2014); inflation is expected to exert a negative effect on profitability when inflation costs increase faster than companies income. It is the actual scenario we observing in Ethiopia this day. On the other hand, again (Tadess, 2017) and others were not found a statistically significant relationship between profitability and inflation. In general, based on the P-value (i.e., 0), the researcher able to reject the null hypothesis; i.e., inflation had a significantly negative effect on medium tax payers' food and beverage manufacturing companies.

In contrast, similarly with the finding of this study, Naceur (2003) and Ayadi and Boujelbene (2012) concluded that the macroeconomic variables, economic growth and inflation, do not have a significant effect on profitability. Sufian and Chong (2008) study results suggest that inflation has a negative impact on profitability, Amdemikael A. (2012) in his study states that the relationship of inflation and profitability is found to be statistically insignificant. Although the results show no statistical significance between these variables, it can be concluded that the inflation rate still explains the variation in profitability of medium tax payers' food and beverage manufacturing companies negatively.

Capital intensity and profitability

The coefficient of capital intensity which is measured by total asset to total revenue was positive 0.0568 and statistically significant at 1% significance level (p-value=0.0000). This shows that holding other things remain constant a 1 percent increase in capital intensity will result in 5.6 percent increase in profitability, statistically significant at 1 percent significance level. According to (Lee and Xiao, 2011) capital-intensive business is the one that requires large amounts of financial resources to produce products or services. Often a ratio of total assets or fixed assets to

sales or labor inputs, defines a firm's efficiency in utilizing its assets to produce goods or services. As noted in this study, with empirical support, the financial economics literature suggested both benefits and drawbacks from capital intensity in relation to performance. high level of capital intensity may increase a firm profitability, likely induced by the significant level of fixed costs that do not vary according to variations in sales (Brealey and Myers, 1984; Shapiro and Titman, 1986) cited by (Lee and Xiao, 2011). On the other hand, capital intensity may help a firm to be financially efficient from its already committed and expensed costs for fixed assets that contribute to the firm's production during the life of those assets (Lubatkin and Chatterjee, 1994) again cited by(Lee and Xiao, 2011). The above regression analysis shows positive and significant results. The result is inline with the finding of Adebayor (2013). It reflecting that performance of sampled food and beverage manufacturing companies which has high capital intensity (large fixed and current asset which enables the companies to generate high revenue) is better than those sampled food and beverage manufacturing companies which has low capital intensity. The researcher believed that it could be one of the above reasons for a positive result of capital intensity and the framed hypothesis is not rejected.

Table 4.3 The Summary of expected and actual signs of explanatory variables

Explanatory variables	**Expected impact**	**Actual impact**
leverage	negative and significance	negative and significance
Firm growth	positive and significance	positive and insignificance
Managerial efficiency	positive and significance	positive and significance
Capital intensity	Positive and significance	Positive and significance
Inflation	negative and significance	negative and insignificance

CHAPTER FIVE

CONCLUTION AND RECOMENDATION

The previous chapter presented the analysis of the findings and discussion of the study. The purpose of this chapter is to discuss the conclusions and recommendations. Accordingly this chapter is organized into two sub-sections. Section 5.1 presents the conclusions and section 5.2 presents the recommendations.

5.1Conclusion and summary of finding

The broad objective of this study was to find the effect of leverage on medium tax payers' food and Beverage manufacturing Companies profitability. Leverage can be measured as a ratio of total debt divided to total asset. Leverage measures the extent to which debt finance which forms a component of the capital structure; contribute to the debt obligation of medium tax payers' food and Beverage manufacturing Companies. This study investigated the effect of leverage on profitability of medium tax payers' food and Beverage manufacturing Company's over the period of 2011/12 to 2017/18 with a sample size of twelve medium tax payers' food and Beverage manufacturing Companies. In addition to leverage; other four major explanatory variables that were used in this study are: - managerial efficiency, capital intensity, firm growth and inflation. To comply with the objective of this research, the study used quantitative research method. The quantitative data were mainly obtained from the ministry of revenue (medium tax payers' branch office) and ERCA. Regression analysis (OLS) is adopted in order to identify and measure the effect of leverage on medium tax payers' food and beverage manufacturing Companies' profitability. The regression analyses were made in line with the specific research objectives and stated hypotheses formulated in the study. Consequently, the empirical findings of this particular study suggested the following conclusions.

I. The adjusted value of R square (0.67) indicates the independent variables in this study i.e. leverage, managerial efficiency, firm growth, capital intensity and inflation rate jointly explain about 67 percent of the variation in the profitability of sampled food and beverage manufacturing companies.

II. This study confirms a negative and highly significant relationship between leverage ratio and profitability in medium tax payers' food and Beverage manufacturing companies at 5% significance level. This result implies that, sampled food and beverage manufacturing companies those uses less debt earned higher profitable than sampled food and beverage manufacturing companies those have high debt. Thus, from the result it is obvious that highly profitable sampled food and beverage manufacturing companies are more likely relied on internally generated funds and equity capital than debt capital as the source of financing. In addition the result is also buttressing that profitable firms uses pecking order theory in its financing, the more profitable a firm is, the more likely they are going to reduce its debts hence internal financing is preferred.

III. The coefficient of the capital intensity and managerial efficiency is positive and statistically highly significant determinants of profitability at 1% confidence level. It reflecting that performance of sampled food and beverage manufacturing companies which has high capital intensity (large fixed and current asset which enables the companies to generate high revenue) is better than those sampled food and beverage manufacturing companies which has low capital intensity and efficient managers.

IV. The analysis suggests that a positive and insignificant relationship between firm growth and profitability of medium tax payers' food and Beverage manufacturing Companies in Addis Ababa. It implies that medium tax payers' food and Beverage manufacturing Companies with high rate of growth in terms of their total assets are not in a better position of being profitable because of investing high to expand their investment which in turn increase an expense and reduce profitability.

V. Lastly microeconomic variable inflation has a negative coefficient sign and not statically significant with a large p-value. Therefore inflation is not considered as a powerful explanatory variable to define the profitability of medium tax payers' food and beverage manufacturing companies in Addis Ababa.

5.2Recommendation

Managerial efficiency and capital intensity in this study were a positive and significant effect with food and beverage manufacturing companies' profitability in Addis Ababa, whereas firm growth and inflationhad insignificant effect on profitability and leverage had a negative significant effect on Profitability.

Based on the findings of the study the following possible recommendations were forwarded:

I. Medium tax payers' food and beverage manufacturing companies should give due consideration to manage their debts in a way that reduce its negative impact on profitability by following trade-off theory of capital structure which orders to keep a dept up to optimal level (calculate the target debt ratio or optimal level by using historical data then using it as the benchmark for judging the level of debt) to ensure that financing risk is not increased beyond acceptable limit. Again selection of debt as a source of capital should be in line with the costs and benefits associated with the use of debt. For better and stable growth it is recommended that those food and beverage companies must not depend heavily on leverage funds, instead searching other means of financing, depend on internal funds more than external funds to manage the significant level of fixed cost. Finally firm with high leverage ratio have to examine their efforts to control unwanted risk and exposure which will impact their profitability and hit their market potential through, less debt financing with minimum interest rate.

II. Management efficiency has a positive and significant impact on profitability of selected food and beverage manufacturing companies. This predicts that food and beverage manufacturing companies with low coefficient of expense to income ratio may generate high profit than those of high coefficient of expense to income ratio. Therefore, food and beverage manufacturing companies under study should reduce operating expenses by using low cost and good quality input, administrative and personnel expenses by hiring small number high competent manager or employees and other costs, to increase their profitability.

III. Those companies has to maximize their efficiency through innovation and development of new technology which helps them to improve quality of their product over that of their

competitors, since the high-quality product may earn a goodwill and reputation than a low-quality product, also they have to emphasize on a better prices and service quality for customers and greater safety in terms of an improved capital buffer in absorbing a risk. But, in consideration of expense incurred to increase its managerial efficiency. Generally a researcher recommended, there must be a significant need to have highly qualified employees in the top managerial staff.

IV. Among the major theories of capital structure, pecking order theories and trade off theories are the prominent theories for food and beverage manufacturing sector in Addis Ababa. More specifically, those two theories are found as the most influential theory from the other capital structure theories. Therefore, managers of the sample food and beverage manufacturing firms are advised to act accordingly by giving due attention first and most importantly for pecking ordertheory, because this theory basically suggests that companies withhigh probability ratio of profitability may use less debt than other companies and thereafter, for trade off theories while making their financing decision; to make their company more profitable.

V. Overall the results provide evidence that the profitability of medium tax payers' food and beverage manufacturing companies is shaped by firm-specific factors that are affected by firm-level management especially; leverage, managerial efficient, and capital intensity. However, macroeconomic variable especially inflation do not seem to significantly affect. So, the sampled companies managers and policy makers should give high concern to firm specific determinants of profitability.

Recommendation for further research:

Based on the above conclusions there is need for further research to further determine the optimum leverage levels which minimizes financing risk as well as maximize return to shareholders of the medium tax payers food and beverage manufacturing companies.The current study recommends that a similar study be carried out for other sectors such as;manufacturing companies like cement and financial institutions (bank, insurance and microfinance institutions) sincethose companies faces many challenges of how to finance them selves that may result to failure.

REFERENCE

Almajali A. Y., Alamro S.A. and Al-Soub, Y. Z. (2012). *Factors Affecting the Financial Performance of Jordanian Insurance Companies Listed at Amman Stock Exchange. Journal of Management research, Vol. 4(2), pp 266-289.*

Alayemi, S. A. (2013).The Relationship between asset utilization and cooperate profitability: a case study of food and beverage industry quoted on Nigerian stock exchange: Merit Research Journal of Business and Management. Vol. 1(1) pp. 001-010.

Asratkifle. (2016). Capital Structure and Financial Performance: Evidence from Ethiopian Cement Companies. un published MSc thesis, Addis Ababa University.

Amanuel, M. (2011). The determinants of capital structure evidence from manufacturing share companies of Addis Ababa city.

Amdemikael, A. (n.d.). Factors Affecting Profitability: An Empirical Study on Ethiopian Banking Industry. Addis Ababa Uiniversity, Accounting & Finance. Addis Ababa: Addis Ababa Uiniversity. *2012* .

Ashenafi, B. (n.d.). Determinants of capital structure in medium enterprises in Ethiopia. Master's thesis, Addis Ababa University. *2005* .

Ayele., A. G. (n.d.). 'Factors Affecting Profitability of Insurance Companies in Ethiopia: Panel Evidence', MSC thesis, Addis Ababa University. *2012* .

Babalola, Y. A. (2013). The effect of firm size on firms' profitability in Nigeria. . *Journal of economics and sustainable development. Vol.4, No.5.*

Beard, D.W., & Dess, G.C. . (1981). Level Strategy and Firm Performance: Corporate –Level Strategy, Business- academy of Management Journal, 67(4), 78-99. .

Block and Hire. (n.d.). Fundamental of Financial management: Richard D. Irwid Inc. Homewood Illinois P-24 . *1978* .

Booth, L, V, Aivazian, A, Demirguc-Kunt and M,Vojislav. (2001). capital structure in developing country. . *Journal of Finance, vol. 56, no. 1, pp. 87–130.*

Brooks, C. (2014). *Introductory Econometrics for Finance. 3rd edition, New York, Cambridge University Press.*

Chakraborty, I. (n.d.). Capital structure in emerging stock market: The Case of India. Research in International Business and Finance, 24, 295-314. . *2010* .

Chandra Sekhar Mishra . (2011). 'Determinants of capital structure A Study of Manufacturing Sector PSUs in India'. *International Conference on Financial Management and Economics, vol,11, pp. 247-252.*

Creswell, W. (2008). *Research design. 3rd edition, California, Sage publication Inc.*

Demsetz, H. (1973). Industry Structure, Market Rivalry, and Public Policy: Journal of Law and Economics, , vol. 16, issue 1, 1-9 .

Dogan, M. (2013). *Does firm size affect firm profitability? Evidence from Turkey. Journal of Finance and Accounting, 4(4), pp 53-59.*

Elangkumaran, P. and Nimalathasan, B. (2013).Leverage and its Impact on Earnings and Share Price.*International Journal of Technological Exploration and Learning (IJTEL)*, 2(4).

Fosu, S. (2013). Capital Structure, Product Competition and firm performance, Evidence from South Africa. University of Leicester (U.K.), Working Paper No.13/11.

Gatsi, J. G. (2013). Degree of Financial and Operating Leverage and Profitability of Insurance Firms in Ghana. . *International Business and Management, ,* 7(2), 57-65. .

Gitman, L. J. (2009). Principles of Managerial Finance. 12th edition.

Grossman, Sanford J., and Oliver D. Hart. . (1982). *Corporate financial structure and managerial incentives." The economics of information and uncertainty. University of Chicago Press. 107-140.*

Gujarati, D. a. (2009). *Basic Econometrics. 5th Edition, New York, Americas, McGraw-Hill.*

Harris, Milton, and Artur Raviv. (1988). *Corporate governance: Voting rights and majority rules." Journal of Financial Economics 20: 203-235.*

Harshada J, .. (2012). Multicollinearity Diagnostics in Statistical Modeling and Remedies.To deal with it using SAS.Session SP07.available fromhttp://www.cytel.com/hubfs/0-library-0/pdfs/SP07.

Huang, G. and Song, F. M. . (n.d.). The determinants of capital structure: Evidence from China. China Economic Review, 17, 14-36. . *2006* .

Imoleayo F. Samuel, O. Kingsley, A. (2016). Financial Structure and the Profitability of Manufacturing Companies in Nigeria: Journal of Accounting, Finance and Auditing Studies 56-63

Jamali A. H. and Asadi,A. (2012). Management efficiency and profitability in Indian automobile industry: from theory to practice. Indian Journal of Science and Technology Vol. 5 No. 5.

Jensen, Michael. (1986). *"Agency cost of free cash flow, corporate finance, and takeovers." Corporate Finance, and Takeovers. American Economic Review 76.2.*

Jensen, Michael C., and William H. Meckling. (1976). *Theory of the firm: Managerial behavior, agency costs and ownership structure." Journal of financial economics 3.4: 305-360.*

John, S. F. (2011). *impact of leverage on firms" investment decision, International Journal of Scientific & Engineering Research, 2(4).*

Jonker,& Pennink,. (n.d.). The essence of research methodology: a concise guide for masters and PhD students in management science, Springer, Heidelberg. *2010* .

Khaled and Hazem, (2015).Determinants of profitability: evidence from industrial companies listed on Muscat securities market

Kumar, M.R. (2014). An Empirical Study on Relationship between Leverage and Profitability in Bata India Limited.*International Journal of Advance Research in Computer Science and Management Studies*, 2(5), 1-9.

Khalid, S., Ali, A., Baloch, M.Q., and Ali, N. (n.d.). Analysis of the impact of leverage on various measures of corporate performance, using Arellano and Bond dynamic panel data estimation technique. Abasyn Journal of Social Sciences, Vol.7, No. 1, pp 1-. *2014* .

Kothari, C. (2004). *Research methodology. 2nd ed. New Delhi: New Age International Ltd.* .

Kyereboah-Coleman, A. (n.d.). The impact of capital structure on the performance of microfinance institutions. Journal of Risk Finance,, 8, 56-71. *2007* .

Maina, L and Kondongo, O. (2013). Capital Structure and Financial performance in Kenya: Evidence from Firms Listed at the Nairobi Securities Exchange. Paper presented at the Jomo Kenyatta University of Science and Technology, SHRD Research Conference, Kenya pp. 238-246.

Mishra, and Gupta (2011). Determinants of capital structure – A study of manufacturing sector PSUs in India, International Conference on Financial Management and Economics IPEDR vol.11

Modigliani, F., & Miller, M. (1963). *Corporate income taxes and the cost of capital: A Correction. American.*

Modigliani, Franco, and Merton H. Miller. (1958). *The cost of capital, corporation finance and the theory of investment." The American Economic Review 48.3: 261-297.*

Morri, S. C., & Beretta, C. . (n.d.). The capital structure determinants of REITs, is it a peculiar industry? Journal of European Real Estate Res, 1, 6-57. . *2008* .

Murthy V, .. (1978). Management Finance: Vakils Feller and Simons Ltd., Bombay.

Mwangi, L. W., Muathe, S.K., and Kosimbei, G. (n.d.). Relationship between Capital Structure and Performance of Non-Financial Companies Listed in the Nairobi Securities Exchange, Kenya. Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics, Vol.1 Issue 2. 72-90. *2014* .

Myers, B. (2003). *Principle of Corporate Finance. 7th ed. McGraw-Hill Companies.*

Myers, S. C. (1977). *"Determinants of corporate borrowing." Journal of financial economics 5.2: 147-175.*

Myers, Stewart C., and Nicholas S. Majluf. (1984). *Corporate financing and investment decisions when firms have information that investors do not have." Journal of financial economics 13.2: 187-221.*

Myers, Stewart C., and Nicholas S. Majluf. (1984). *Corporate financing and investment decisions when firms have information that investors do not have." Journal of financial economics 13.2: 187-221.*

Naveed, A. and Zongjun, W. (2011). Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan, Managerial Finance Vol. 37 No. 2, 2011pp. 117

Nishanthini & Nimalathasan,. (2013). Determinants of profitability: A case study of listed manufacturing companies in Sri Lanka. Merit Research Journal of Art, Social Science and Humanities Vol. 1(1) pp. 001-006.

Rajan, R. G., & Zingales, L. (n.d.). What do we know about capital structure? Some evidence from international data. Journal of Finance, 50, 1421-1460. . *1995* .

ReshidS.(2015) Determinants of Insurance Companies Profitability in Ethiopia. A thesis submitted to the department of accounting and finance presented in partial fulfilment of the requirements for the Degree ofMaster of Science.

Ross, S. (1977). The determination of financial structure: The incentive signaling approach. . *Bell Journal of Economics, 8,* , 23–40.

Safari., A. a. (2009). *The effects of capital structure on profitability: Evidence from Listed Indian Firms. Journal of Multinational Financial Management., 5, 477-487.* .

Salazar, L.A., Soto, C.R. & Mosqueda, E.R. (2012). *The Impact of Financing Decisions and Strategy on Small Business Competitiveness. Global Journal of Business Research.*

Shaheen A, .. (2012). The Impact of capital intensity, size of firm and profitability on debt financing in Textile industry of Pakistan vol 3, NO 10.

Slade, E. (2003). Models of firm profitability: Department of economics University of Warwick Coventry CV4 7AL UK.

Stierwald, A. (2009). Determinants of Firm Profitability – The Effect of Productivity and its persistence. Melbourne Institute of Applied Economic and Social Research.

Tulsian M, .. (2014). Profitability analysis: a comparative study of SAIL & TATA Steel. IOSR Journal of economics and finance .volume 3, Issue 2. PP 19-22.

Velnampy, T. and Anojan, V. (n.d.). . Capital Structure, Liquidity Position and Their Impact on Profitability: A study of Listed Telecommunication Firms in Colombo Stock Exchange, Sri Lanka. Research Journal of Finance and Accounting, Vol. 5(9), pp131-139. *2014* .

Weldemikael, S. (n.d.). Determinants of Capital Structure of Commercial Banks in Ethiopia. Addis Ababa University. *2012* .

Yamane, T. (1967). *'Statistics: an introductory analysis, 2nd edn, Harper and Row,New york.*

Zeitun, R., Tian, G. . (n.d.). Capital structure and corporate performance: evidence from Jordan. Australasian Accounting Business and Finance Journal, 1, 40-53. . *2007* .

APPENDEXIX

Appendix I

Heteroskedasticity Test: White

F-statistic	1.781500	Prob. F(5,90)	0.1246
Obs*R-squared	8.645653	Prob. Chi-Square(5)	0.1241
Scaled explained SS	7.499354	Prob. Chi-Square(5)	0.1861

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/14/19 Time: 14:33
Sample: 1 96
Included observations: 96

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003944	0.001415	2.788069	0.0065
LEV^2	0.001810	0.002355	0.768797	0.4440
ME^2	0.002922	0.005294	0.552085	0.5823
INF^2	-0.029821	0.017647	-1.689800	0.0945
GROW^2	0.028033	0.011003	2.547845	0.0125
CAPINF^2	-0.000330	0.000227	-1.449413	0.1507

R-squared	0.090059	Mean dependent var	0.004160
Adjusted R-squared	0.039507	S.D. dependent var	0.005875
S.E. of regression	0.005758	Akaike info criterion	-7.416071
Sum squared resid	0.002984	Schwarz criterion	-7.255799
Log likelihood	361.9714	Hannan-Quinn criter.	-7.351287
F-statistic	1.781500	Durbin-Watson stat	1.479898
Prob(F-statistic)	0.124614		

Appendix II

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	13.50061	Prob. F(2,88)	0.1111
Obs*R-squared	22.53990	Prob. Chi-Square(2)	0.1197

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 12/14/19 Time: 14:36

Sample: 1 96

Included observations: 96

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEV	0.046227	0.041383	1.117059	0.2706
ME	0.060612	0.060154	1.007607	0.3197
INF	-0.369326	0.140896	-2.621273	0.0123
GROW	0.104059	0.072421	1.436857	0.1585
CAPINF	0.010543	0.012560	0.839446	0.4062
C	-0.017009	0.042644	-0.398857	0.6921
RESID(-1)	0.383168	0.142863	2.682073	0.0106
RESID(-2)	0.397700	0.159710	2.490135	0.0170

R-squared	0.234791	Mean dependent var	-1.65E-17
Adjusted R-squared	0.173922	S.D. dependent var	0.064835
S.E. of regression	0.059510	Akaike info criterion	-2.514145
Sum squared resid	0.141658	Schwarz criterion	-1.018275
Log likelihood	139.7764	Hannan-Quinn criter.	-1.909490
F-statistic	3.857316	Durbin-Watson stat	1.671692
Prob(F-statistic)	0.001052		

Appendix III

multicollenarity

	ROA	LEV	ME	GROW	CAPINF	INF
ROA	1.000000	-0.058061	0.499197	-0.271333	-0.401636	0.096390
LEV	-0.058061	1.000000	-0.130163	0.107810	-0.047453	-0.101509
ME	0.499197	-0.130163	1.000000	0.000440	0.181203	-0.105911
GROW	-0.271333	0.107810	0.000440	1.000000	0.148851	0.255044
CAPINF	-0.401636	-0.047453	0.181203	0.148851	1.000000	-0.254904
INF	0.096390	-0.101509	-0.105911	0.255044	-0.254904	1.000000

Appendix IV

Ramsey RESET Test
Equation: UNTITLED
Specification: ROA C LEV GROW ME CAPINF INF
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.133389	89	0.2650
F-statistic	1.284571	(1, 89)	0.2650
Likelihood ratio	1.483411	1	0.2232

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	0.053026	1	0.053026
Restricted SSR	0.399345	90	0.004437
Unrestricted SSR	0.346318	89	0.003891
Unrestricted SSR	0.346318	89	0.003891

LR test summary:

	Value	df
Restricted LogL	126.9313	90
Unrestricted LogL	133.7697	89

Unrestricted Test Equation:
Dependent Variable: ROA
Method: Least Squares
Date: 01/21/20 Time: 15:02
Sample: 1 96
Included observations: 96

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.049288	0.028795	1.711679	0.0904
LEV	0.012457	0.028809	0.432377	0.6665
GROW	-0.099000	0.052998	-1.867975	0.0651
ME	0.103266	0.081230	1.271276	0.2069
CAPINF	-0.030243	0.012227	-2.473508	0.0153
INF	0.061790	0.084108	0.734651	0.4645
FITTED^2	3.589952	0.972492	3.691499	0.0004

R-squared	0.608985	Mean dependent var	0.105606
Adjusted R-squared	0.582624	S.D. dependent var	0.096556
S.E. of regression	0.062380	Akaike info criterion	-2.641035
Sum squared resid	0.346318	Schwarz criterion	-2.454051
Log likelihood	133.7697	Hannan-Quinn criter.	-2.565453
F-statistic	23.10211	Durbin-Watson stat	0.950922
Prob(F-statistic)	0.000000		

Appendix V

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.007161	5	0.2201

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
LEV	-0.152148	-0.089450	0.000778	0.0246
GROW	-0.077272	-0.090861	0.000232	0.3723
CAPINF	-0.055191	-0.056864	0.000018	0.6914
INF	0.040367	0.063489	0.000662	0.3687
ME	0.310585	0.331808	0.004176	0.7426

Cross-section random effects test equation:
Dependent Variable: ROA
Method: Panel Least Squares
Date: 12/02/19 Time: 13:44
Sample: 2011 2018
Periods included: 8
Cross-sections included: 12
Total panel (balanced) observations: 96

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.156010	0.049542	3.149050	0.0023
LEV	-0.152148	0.050218	-3.029756	0.0033
GROW	-0.077272	0.048768	-1.584475	0.1171
CAPINF	-0.055191	0.010792	-5.114263	0.0000
INF	0.040367	0.074881	0.539078	0.5913
ME	0.310585	0.094622	3.282362	0.0015

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.796598	Mean dependent var	0.105606
Adjusted R-squared	0.755402	S.D. dependent var	0.096556
S.E. of regression	0.047754	Akaike info criterion	-3.086262

Sum squared resid	0.180151	Schwarz criterion	-2.632159
Log likelihood	165.1406	Hannan-Quinn criter.	-2.902706
F-statistic	19.33707	Durbin-Watson stat	1.917107
Prob(F-statistic)	0.000000		

Appendix VI

Dependent Variable: ROA
Method: Panel EGLS (Cross-section random effects)
Date: 12/02/19 Time: 13:43
Sample: 2011 2018
Periods included: 8
Cross-sections included: 12
Total panel (balanced) observations: 96
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.118725	0.041713	2.846218	0.0055
LEV	-0.089450	0.041761	-2.141935	0.0349
GROW	0.090861	0.046328	1.961253	0.0529
CAPINF	0.056864	0.009936	5.723193	0.0000
INF	-0.063489	0.070325	-0.902795	0.3690
ME	0.331808	0.069116	4.800714	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	0.049589	0.5188
Idiosyncratic random	0.047754	0.4812

Weighted Statistics

R-squared	0.704875	Mean dependent var	0.034037
Adjusted R-squared	0.677368	S.D. dependent var	0.067150
S.E. of regression	0.048545	Sum squared resid	0.212093
F-statistic	18.35446	Durbin-Watson stat	1.628228
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.704875	Mean dependent var	0.034037
Sum squared resid	0.456086	Durbin-Watson stat	1.628228

Appendix VII

Raw data for regression

Comp Id	Year	ROA	ME	INF	GROW	LEV	CAPINF
1	2011	0.3394	0.3135	0.181	0.0802	0.8282	0.4025
1	2012	0.2862	0.4129	0.341	0.2008	0.8179	0.6649
1	2013	0.1924	0.3813	0.135	0.1964	0.9421	0.8330
1	2014	0.2431	0.4343	0.081	0.0738	0.9511	0.7775
1	2015	0.2398	0.4655	0.077	0.1134	0.9624	0.8139
1	2016	0.2872	0.4695	0.104	0.1078	0.9701	0.8176
1	2017	0.2671	0.4542	0.072	0.1273	0.9685	0.8302
1	2018	0.2800	0.4939	0.085	0.1142	0.9755	0.8297
2	2011	0.1809	0.5259	0.181	0.1468	0.4736	0.5979
2	2012	0.0568	0.3958	0.341	0.3971	0.2003	1.2499
2	2013	-0.0158	0.2771	0.135	0.1918	0.4068	3.5484
2	2014	0.0668	0.3755	0.081	-0.0155	0.3821	1.2164
2	2015	-0.0204	0.4050	0.077	0.0299	0.4207	1.4339
2	2016	0.0382	0.4283	0.104	0.3576	0.4188	1.4098
2	2017	0.0385	0.4092	0.072	0.3916	0.4199	1.4751
2	2018	0.0517	0.4472	0.085	0.3703	0.4204	1.9044
3	2011	0.1638	0.1406	0.181	0.0213	0.4092	0.4197

3	2012	0.0294	0.1145	0.341	0.0215	0.5015	0.7179
3	2013	0.1172	0.1661	0.135	0.0106	0.4958	0.5710
3	2014	0.0182	0.2029	0.081	0.6342	0.1863	3.1954
3	2015	0.0136	0.1089	0.077	0.0127	0.1921	1.8408
3	2016	0.1198	0.1847	0.104	0.0178	0.2150	2.0176
3	2017	0.0419	0.2176	0.072	0.0218	0.2287	1.0718
3	2018	0.1208	0.2005	0.085	0.0194	0.2068	1.9372
4	2011	0.0176	0.3750	0.181	0.0234	0.1776	3.4329
4	2012	0.2059	0.6390	0.341	0.1044	0.1747	1.4676
4	2013	0.2390	0.6568	0.135	-0.0222	0.2292	1.4505
4	2014	0.2287	0.6618	0.081	-0.0581	0.1687	1.4764
4	2015	0.1199	0.6029	0.077	0.0837	0.1632	2.3228
4	2016	0.2046	0.6578	0.104	0.0746	0.2831	2.1764
4	2017	0.2375	0.6139	0.072	-0.0828	0.1975	2.2276
4	2018	0.2297	0.6729	0.085	0.0981	0.2488	2.5472
5	2011	0.2744	0.3481	0.181	-0.0001	0.3990	0.4976
5	2012	0.1040	0.4148	0.341	0.3391	0.5291	1.3996
5	2013	0.0492	0.4992	0.135	0.0495	0.5312	1.6922
5	2014	0.0919	0.5526	0.081	0.0943	0.5458	1.5168
5	2015	0.1189	0.5477	0.077	0.1059	0.2781	1.4522
5	2016	0.1236	0.5573	0.104	0.1068	0.4198	1.5093
5	2017	0.1195	0.5603	0.072	0.1060	0.5138	1.5721
5	2018	0.1235	0.5492	0.085	0.1098	0.3746	1.4762
6	2011	0.3027	0.1318	0.181	-0.2532	0.6678	0.1480

6	2012	0.0240	0.1678	0.341	0.4583	0.5125	1.0080
6	2013	0.0150	0.1770	0.135	0.1906	0.7120	1.1385
6	2014	0.0081	0.2587	0.081	0.2039	0.8463	1.9336
6	2015	0.0053	0.2036	0.077	0.0355	0.8550	1.8880
6	2016	0.0063	0.2188	0.104	0.0365	0.8597	1.9017
6	2017	0.0060	0.2198	0.072	0.0392	0.8615	1.9053
6	2018	0.0069	0.2382	0.085	0.0403	0.8689	1.9101
7	2011	0.0629	0.1052	0.181	0.0179	0.3340	0.5161
7	2012	0.0651	0.0995	0.341	0.0767	0.3807	0.5288
7	2013	0.0108	0.0596	0.135	0.3092	0.6878	0.8714
7	2014	-0.0033	0.0763	0.081	0.2218	0.6775	1.2804
7	2015	-0.0733	0.0174	0.077	0.0865	0.6104	1.1392
7	2016	-0.0613	0.0196	0.104	0.2199	0.5971	1.1573
7	2017	-0.0013	0.0692	0.072	0.2274	0.6019	1.1729
7	2018	0.0005	0.0746	0.085	0.2371	0.6174	1.1800
8	2011	0.0651	0.1373	0.181	0.0926	0.4085	0.8305
8	2012	0.0191	0.0853	0.341	0.0139	0.4089	0.7747
8	2013	0.0819	0.1626	0.135	0.0047	0.3334	0.8500
8	2014	0.0980	0.1991	0.081	0.0197	0.2719	0.9127
8	2015	0.0864	0.2186	0.077	-0.0323	0.1328	1.0408
8	2016	0.0903	0.2218	0.104	-0.0198	0.2971	1.0532
8	2017	0.0938	0.2275	0.072	0.0032	0.2615	1.0582
8	2018	0.0896	0.2306	0.085	0.0197	0.3905	1.0603
9	2011	0.2238	0.3279	0.181	-0.0153	0.4578	0.6094

9	2012	0.0655	0.2789	0.341	0.4028	0.7353	1.3948
9	2013	0.0629	0.2865	0.135	0.0723	0.7095	1.5456
9	2014	0.0467	0.2808	0.081	0.0736	0.6849	1.7973
9	2015	0.1349	0.3239	0.077	-0.2712	0.2571	0.8440
9	2016	0.1538	0.3197	0.104	-0.2543	0.4986	0.8527
9	2017	0.1751	0.3257	0.072	0.0017	0.5036	0.8625
9	2018	0.1691	0.3864	0.085	0.0108	0.5129	0.8762
10	2011	0.1783	0.2904	0.181	0.0296	0.4646	0.8443
10	2012	0.1027	0.2831	0.341	0.1970	0.5833	1.3044
10	2013	0.0512	0.2433	0.135	0.0238	0.6064	1.4665
10	2014	0.0054	0.1315	0.081	-0.0165	0.6624	1.2468
10	2015	0.0167	0.3407	0.077	0.0641	0.7147	3.3971
10	2016	0.0077	0.2946	0.104	0.0538	0.7157	3.2678
10	2017	0.0188	0.3015	0.072	0.0610	0.7207	2.9016
10	2018	0.0189	0.3036	0.085	0.0697	0.7216	3.0346
11	2011	0.2888	0.4016	0.181	0.1544	0.3090	0.3960
11	2012	0.1653	0.4207	0.341	0.2483	0.2518	0.5774
11	2013	0.0053	0.3618	0.135	0.1794	0.5350	0.7351
11	2014	0.0007	0.2816	0.081	0.0009	0.6687	0.9434
11	2015	0.0412	0.3174	0.077	0.1604	0.4900	0.9233
11	2016	0.0016	0.3439	0.104	0.1835	0.5317	0.9376
11	2017	0.0244	0.4259	0.072	0.1817	0.5973	0.9504
11	2018	0.0315	0.4094	0.085	0.1728	0.6035	0.9501
12	2011	0.1589	0.2160	0.181	0.1283	0.3264	0.7428

12	2012	0.1041	0.2206	0.341	0.1048	0.1983	1.0377
12	2013	0.2239	0.2686	0.135	0.0829	0.3508	0.6744
12	2014	0.1868	0.2670	0.081	0.0458	0.2840	0.7869
12	2015	0.1919	0.3049	0.077	0.0824	0.2776	0.8623
12	2016	0.2068	0.3589	0.104	0.0801	0.3500	0.8618
12	2017	0.2396	0.3941	0.072	0.0707	0.2946	0.8829
12	2018	0.1935	0.3165	0.085	0.0691	0.3319	0.7951

Appendix VIII

ተ.ቁ	ቲን	በምግብናመጠጥዘርፍየሚገኙግብርከፋዮችስም	መስክ	የመጠበት ቅ/ጽ/ቤት
1	0003416867	GARDEN BRAU (BEER PRODUCTION) PRIVATE LIMITED COMPANY	MANUFACTURING	AA BRANCH EAST
2	0003857742	PIKO JUICE FACTORY PRIVATE LIMITED COMPANY	MANUFACTURING	AA BRANCH WEST
3	0004486550	ROSETTA BAKERY PRIVATE LIMITED COMPANY	MANUFACTURING	AA BRANCH EAST
4	0004845375	AL-HASSAN FOOD INDUSTRIES PLC	MANUFACTURING	AA BRANCH EAST
5	0005134641	PAKANA FOOD PROCESSING INDUSTRY PLC	MANUFACTURING	AA BRANCH EAST
6	0005233653	MULLER INDUSTRY PLC	MANUFACTURING	AA BRANCH WEST
7	0005995614	SWEET HONEY FOOD INDUSTRIES PLC	MANUFACTURING	AA BRANCH EAST
8	0014831509	ANM SWISS INDUSTRIES PLC	MANUFACTURING	AA BRANCH EAST
9	0016674991	TAMAZ FOOD PROCESSING COMPLEX PLC	MANUFACTURING	AA BRANCH EAST
10	0023315216	EAT-SWEET INDUSTRY PLC	MANUFACTURING	AA BRANCH EAST
11	0024655883	AS PACK INDUSTRY P.L.C.	MANUFACTURING	AA BRANCH WEST
12	0025006076	ORANGE HOUSE FOOD PROCESSING P.L.C	MANUFACTURING	AA BRANCH WEST
13	0031403295	MO-YA FOOD COMPLEX P.L.C	MANUFACTURING	AA BRANCH EAST
14	0036634437	NUTRAFRICA AGRO INDUSTRY & FOOD PROCESSING PLC	MANUFACTURING	AA BRANCH EAST
15	0037305931	AFRO OIL MANUFACTURING P.L.C	MANUFACTURING	AA BRANCH EAST
16	0039890713	ESTEEM FOOD PRODUCTS PLC	MANUFACTURING	AA BRANCH EAST
17	0041284704	VERDE BEEF PROCESSING PLC	MANUFACTURING	AA BRANCH WEST
18	0044866869	AJAY PIPES PLC	MANUFACTURING	AA BRANCH EAST
19	0045267525	NEW BRILLIANT MANUFACTURING PLC	MANUFACTURING	AA BRANCH EAST

20	0049689747	NESIR PACKED WATER AND JUICE DISTRIBUTER PLC	MANUFACTURING	AA BRANCH WEST
21	0000023269	ADDIS BLOCK PRODUCTION SHARE COMPANY	MANUFACTURING	AA BRANCH EAST
22	0000030154	GIFTII FOODS AND PACKAGING PLC	MANUFACTURING	AA BRANCH WEST
23	0000044350	ADDIS KETEMA SWEETS FACTORY PRIVATE LIMITED COMPANY	MANUFACTURING	AA BRANCH EAST
24	0001018927	AKAKI ANIMAL FEED PLANT PRIVATE LIMITED COMPANY	MANUFACTURING	AA BRANCH EAST
25	0002474789	SPIRITS ICE CREAM PRIVATE LIMITED COMPANY	MANUFACTURING	AA BRANCH EAST
26	0002869474	YABRET FOOD COMPLEX PLC	MANUFACTURING	AA BRANCH WEST
27	0002928422	ALMAZ WAKWOYA AND FAMILY FOOD COMPLEX P.L.C	MANUFACTURING	AA BRANCH EAST
28	0003857742	PIKO JUICE FACTORY PRIVATE LIMITED COMPANY	MANUFACTURING	AA BRANCH EAST