Addis Ababa University

College of Business and Economics

Accounting and Finance Department

Effect of Capital Structure on the Financial Performance of Ethiopian Food and Beverage Manufacturing Firms Industry

A Thesis to Addis Ababa University College of Business and Economics Department of Accounting and Finance in Partial Fulfillment of the Requirements for the Degree of Master of Science in Accounting and Finance

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Statement of Declaration

I, Znaye Mamo Kebede, hereby declare that the thesis on the topic entitled "***Effect of Capital Structure on the Financial Performance of Ethiopia Food and Beverage Manufacturing Companies"*** submitted by me for the award of the degree of Master of Science in Accounting and Finance from Addis Ababa university, is original work and it has never been presented in any university. All sources and materials used for this thesis have been appropriately acknowledged.

Declared by:

Name: Znaye Mamo

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Date: _____

Statement of Approval

This is to certify that this thesis entitled, "***Effect of Capital Structure on the Financial Performance of Ethiopia Food and Beverage Manufacturing Companies"*** was carried out by Znaye Mamo under the supervision of Abebaw Kassie (PhD), submitted in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Advisor: Abebaw Kassie (PHD) Signature _____ Date _____

Internal Examiner: Sewale Abate (PHD) Signature _____ Date _____

External Examiner: Zenegnaw Abiy (PhD) Signature _____Date _____

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Abstract

The purpose of this thesis is to provide evidence on the effect of capital structure on the financial performance of food and beverage manufacturing companies categorized under large tax payer in Ethiopia. The study applied explanatory research design and panel data regression analysis. In order to answer the research question, secondary data was collected from the sample of thirteen large tax payer food and beverage manufacturing companies covering five years period (2013-2017). In the present study, able to examine the effect of capital structure variables with two financial performance measuring variables (ROA and ROE) and long term debt and short term debt as a capital structure variables and also growth, firm size, asset tangibility from firm specific and inflation from macroeconomic factors are included as a control variables. E-Views version 10 software packages was used to make regression analysis. The finding from capital structure variables indicates: long term debt has a significant negative effect on financial performance of FBMCs but short term debt has insignificant positive effect, and from control variables growth and firm size has a significant positive relation, asset tangibility has also a significant but negative effect. However inflation rate has no significant effect on financial performance of Ethiopian Food and Beverage Manufacturing (FBMCs). Finally, the researcher make recommends for financial managers to do not use excessive amount of debt in their capital structure and to finance their projects with retained earnings first and take long term debt as a last option, for future researcher to consider market performance measures and for universities to initiate students to do more researches on this topic.

Key Words: Capital Structure, Return on Asset, Return on Equity, Long Term Debt and Short Term Debt

Acronyms

BR	Business Risk
CapInv	Capital Investment
DA	Debt to Asset Ratio
DE	Debt to Equity Ratio
EBIT	Earnings before Interest and Taxes
EPS	Earnings per Share
FBMCs	Food and Beverage Manufacturing Companies
GRO	Growth
GPM	Gross Profit Margin
ICR	Interest Coverage Ratio
INFL	Inflation Rate
LDCR	Long Term Debt to Capitalization Ratio
LTD	Long Term Debt to Total Assets
LIQUID	Liquidity
MM	Modigliani and Miller
MSM	Muscat Securities Market
NBE	National Bank of Ethiopia
NPM	Net Profit Margin
NPM	Net Profit Margin
OLS	Ordinary Least Square
OPM	Operating Profit Margin
ROA	Return on Asset
ROCE	Return on Capital Employed
ROE	Return on Equity

SG	Sales Growth
STD	Short Term Debt to Total Assets
TANG	Asset Tangibility
TAX	Tax
TD	Total Debt
TURN	Asset Turnover Ratio

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Chapter One - Introduction

1.1. Background of the Study

Capital structure is the firm's mixture of debt and equity. Although actual levels of debt and equity may vary somewhat over time, most firms try to keep their financing mix close to a target capital structure. A firm's capital structure decision includes its choice of a target capital structure, the average maturity of its debt, and the specific types of financing it decides to use at any particular time. As with operating decisions, managers should make capital structure decisions that are designed to maximize the firm's intrinsic value (Brigham & Ehrhardt, 2013)

Capital structure and its effect on firm's financial performance is a core issue in finance and there are a number of theories try to explain this relationship. Modigliani and Miller (1958): MM Theory can be taken as the most influential theory to show the relationship between capital structure and firms value. They hypothesizes that the firm value is not influenced by its capital structure however, this theory is based on restrictive assumptions that does not exist in the real world. Even though, their work marked as the beginning of modern capital structure research,

Later Modigliani & Miller (1963) adjusted their 1958 theory by considering the benefit of tax shield by decreasing net income before tax through deducting interest expense. This resulted from the tax code allows corporations to deduct interest payments as an expense, but dividend payments to stockholders are not deductible. The differential treatment encourages corporations to use debt in their capital structures.

Trade off theory assumed that there is an optimal capital structure by trading off the benefits and cost of debt and equity. However, the presence of flotation costs and asymmetric information cause a shift from the trade-off theory to pecking order theory. The pecking order theory developed by Myers & Majluf (1984) and their model suggest to rely on internal sources of funds, and to prefer debt to equity if external financing is required even firms may pass up valuable investment opportunities because of refuse to issue stock.

Agency theory, developed by Jensen & Meckling (1976) explains that an optimal capital structure to maximize firm value must be the one which minimizes conflicts of interest among stakeholders. According to Jesen & Meckling (1976) the main benefit of debt is tax deductibility of interest and the costs are bankruptcy cost and agency cost. Jensen (1986) found that firms financed with cash and debt will generate larger benefits than those accomplished through exchange of stock.

The managers faced a problem with in making a decision on the capital structure choice, because it has an effect on the financial performance of firms. It means indirectly influences the shareholder return and risk. Nirajini & Priya (2013) explained important role of capital structure in determining the risk level of the company and fixed cost is the key factor whether it is involved in production process or fixed financial charges. Debt should be kept low if the management is likely to confront an uncertain environment but how low or how high is the basic question. The assets of the company can be financed from the owner of the firm or from the lender. The owner claims increase when the firm raises funds by issuing ordinary shares or by retain the earnings which belong to the shareholders; the loaners claim increase when the company borrows money from the market using some instrument other than shares.

The Tax-based theory suggests that in a world with only corporate taxes and no personal taxes, the tax deductibility of interest for corporations creates a clear preference for debt in the corporate capital structure. Therefore, firms that are highly levered are supposed to outperform their counter parts that are less levered. (Rao, Yahyaee, & Syed, 2007)

Strength of financial position of an organization is called financial performance. Financial analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationship between the items of the balance sheet and the profit and loss account. In financial analysis a ratio is used as a benchmark for evaluating the financial position and performance of a firm.(Kifle, 2016)

Based on the above, there are many theories that have been advanced in explaining the relation between capital structure and financial performance but they found different results.

1.2. Statement of the Problem

The components of total asset for different companies come from fully from owners or partially supported by external creditors. The combination of different source of finance is referred to as mix of capital structure of the business. Capital structure is thus the mix of company's long term debt, short term debt, common equity and preferred equity. The difficulty facing companies when structuring their finance is to determine how it affect their financial performance. Finance managers have a responsibility of determining the optimal mix of debt and equity that will ensure maximization of shareholders wealth.

In Ethiopia, there are studies conducted on the effect of capital structure on the financial performance in the case of different scopes by different researchers such as: Tufa (2016), Kifle (2016), Liku (2017), Melese (2013), Hailu (2015), Getahun (2016), Gebrehiwot (2016), Negasa (2016), Aragie, Beyene & Shiferaw (2015) but their finding contradicts each other. Additional to research's conducted in Ethiopia, there are also other researchers study on this topic and found different results, from these empirical studies some of them found positive relationship between capital structure and firms financial performance, it means the financial performance of the firms increase with increase in level of debt such as: Nirajini & Priya (2013), Abor (2005), Githire & Muturi (2015) and Adesina, Nwidobie, & Adesina (2015). On the other side, Rao et al., (2007), Bhattarai (2016), Muritala (2012), Madah, Sultan, & Farooq (2013), Vătavua (2015), Le & Phan (2017), Ebaid (2009), and Maina & Ishmail (2014) found a negative relation between capital structure and financial performance of the firms.

From the above discussions, the researcher understands that there is a variation among all empirical studies and the finding on this topic is still inconclusive. For the reason that, there is no one theory accepted as a common theory, their finding was vary between one researchers with another and contradiction in conclusions and recommendations. Therefore, this topic is still unresolved issue. From the best of the researcher knowledge there is no study seeking a relationship between capital structure and the financial performance of manufacturing in the case of food and beverage sector in Ethiopia and also since food and beverage manufacturing sector is considered as the most strong and dominant sector and they have high profit relatively than other manufacturing sectors as evidenced by Tufa (2016). Therefore, the researcher wants to contribute to the development of Ethiopia major manufacturing FBMCs by examine significant factors, those are to be considered before a

capital structure decision is made to finance their project. This study also attempts to contribute to the few empirical studies and to the debate on the relation between capital structure and financial performance by analyzing five year data from thirteen FBMCs in Ethiopia.

1.3. Significance of the Study

There has been many studies related to the effect of capital structure on the financial performance of firms conducted in both developed and developing countries and this research would incorporate on existing theories. This research aims to enable managers understand how capital structure variables has an effect on financial performance of manufacturing sector in Ethiopia especially on food and beverage industry. So, this research willing to assist the firm's financial managers in determining the optimal level of capital structure by considering effect of different level of debt. This research would not only for the financial managers of food and beverage manufacturing companies but also for future researchers as a source of knowledge and also readers could educate on how capital structure and firm performance are related for selected sample firms from food and beverage industry.

1.4. Research Question

Based on the above statement of the problems the researcher is going to answer the following

- What is the effect of capital structure on the financial performance of Ethiopian manufacturing companies operating in food and beverage industry?

1.5. Objective of the Study

1.5.1. General Objective

The main objective of this study is to examine the effect of capital structure on the financial performance of Food and Beverage Manufacturing Companies (FBMCs) in Ethiopia.

1.5.2. Specific Objectives

Specific objectives is

- To examine effect of capital structure variables (short term debt and long term debt) on the financial performance of food and beverage manufacturing companies.
- To examine effect of control variables (growth, firm size, asset tangibility and inflation) on the financial performance of food and beverage manufacturing companies.

1.6. Scope of the Study

The scope of this study is to identify and analyze the effect of capital structure on the financial performance of food and beverage manufacturing companies'. This research conducted in Ethiopia manufacturing sector because the development of the manufacturing sector helps to improve the productivity and competitiveness of the overall economy, to strengthen its competitiveness the Government of Ethiopia offered multiple incentives for the growth of the manufacturing sector (Eshetie, 2018). For this research topic, the researcher believes that manufacturing firm is the best case. Because as Mrubu (2016) also discussed it is common in the manufacturing sector to have more frequent and higher need of raising capital than those in the service sector like professional services. Therefore, frequently they look for new finance but the main problem is by which financing option that finance is raised.

From manufacturing sector, the researcher select only one sector in order to avoid misleading results because there are sector specific economic risk which can be influence the capital structure decisions and firms financial performance, which can vary differently across economic sectors. Therefore from manufacturing companies, food and beverage industry were selected because according to Eshetie (2018) Ethiopian large and medium size manufacturing sector is dominated by food and beverages and accounted for the largest proportion of the overall large and medium manufacturing value. And also it is considered as the most strong and dominant sector and they has relatively high profit than other manufacturing sectors as evidence by Tufa (2016) and also as the best of researcher knowledge most of the previous studies in different countries in relation to this topic didn't conduct on food and beverage industry, these reasons attract researcher to get new finding on

new sector. Food and beverage industry include a subsector of wide variety of activities, mostly linked to the transformation of domestically produced agricultural products (Ethiopian manufacturing survey analysis 2014). The subsector comprises the following production industries: vegetables, animal oils and fats, dairy products, grain mill products, prepared animals feeds, bakery products, sugar and sugar confectionery, macaroni and spaghetti, wines, malt liquors and malt, soft drinks and production of mineral water.

The data collected for this paper limited on five years data from thirteen food and beverage manufacturing companies categorized under large tax payer authority office this is because of there is a problem to get accurate financial information either intentionally or unintentionally and also it is difficulty on data collection from companies itself. Large tax payers are selected because they have high contribution than small and medium tax payer. From these thirteen FBMCs eight are share companies and four are private limited companies. The reason behind for selecting eight share companies, because they can sale shares to existing shareholders or to the new investors easily to raise equity finance, and also there are many parties those have public interest on share companies and also another main reason is the formation of share companies so far has been very limited for various reasons. The common justification for forming corporate forms of business organization is the need to have huge amount of capital for the undertaking. This implies the scale of activities of the investment project demands the contribution of investment resources from a wide range of sources (Girma, 1994). Therefore these companies should to consider effect of capital structure. So, the researcher wants to study on this sector by sampling eight companies and the other five PLCs are added to increase the power of the sample result to the actual and to ease of generalization based on their availability of data for the researcher.

1.7. Structure of the Paper

This thesis is organized into five chapters; chapter one is the introductory part of the thesis, chapter two presents' theories and empirical literature on capital structure, chapter three focused on the methodology, chapter four discusses empirical results of the study and chapter five is summary of finding, conclusion and recommendations for the companies' management and for future researchers.

Chapter Two - Literature Review

In this chapter the researcher will discuss the trend of capital structure theories and then present the different empirical findings conducted on the effect of capital structure on the financial performance of firms.

2.1. Review of Capital Structure Theories

Capital structure of the firm is a mix of different source of financing used by different companies. It consists of debt and equity that make up the liability and owners' equity components of the firm's balance sheet. Nirajini & Priya (2013) discuss that the choice of a firm's capital structure is a marketing problem. The decision to divide its cash flows into two broad components, fixed component that is to meet the obligations toward debt financing and a remaining component that belongs to equity shareholders.

Companies should well define their capital structure policy. An appropriate capital structure decision may improve the value of the firm. There are two opposite effects of debt on the firm value. The overall cost of capital may reduce as the proportion of debt increases in the capital structure because cost of debt is less than cost of equity, while on the other hand risk of bankruptcy the firm increases with the increase in fixed obligation resulted from debt.

Various theories of capital structure have been proposed to explain the effect of capital structure on the value of firm. There is an agreement in that the capital structure should be at optimum. Theoretically optimum capital structure implies a ratio of debt and equity at which weighted average cost of capital minimum and the maximum market value of the firm. However, there is no agreement on what level of capital structure is optimum.

2.1.1. Modigiliani-Miller Theory

In 1958, MM theory creates a great step forward in the theory of capital structure and its effect on firm's value. This theory has an assumptions of there is a perfectly competitive capital market condition: capital markets are assumed to be without transaction costs for

buying and selling securities, no bankruptcy costs: all firms are in the same class of risk, no taxes on corporate income, information is symmetric across insider and outsider investors: It means an investor will have access to the same information as corporate and investors would behave rationally, the cost of borrowing is the same for investors as well as companies, managers are loyal stewards of owners and always maximize stockholders' wealth. Modigliani & Miller (1958) indicates that a firm which has a mix of debt and equity (leveraged firm) is the same as the value of a firm which is wholly financed by equity (unleveraged firm), if the operating profits and future growth are the same. That is, there is no difference between on leveraged firm and unleveraged firm. Equilibrium in the capital market requires that the value of the firm should be independent of the proportions of debt and equity in the firm's capital structure. They argued that the firm value is determined only by its basic earning power. However, in the real world there are taxes, transaction and bankruptcy costs, difference in borrowing cost between individual and corporations, information asymmetries and effects of debt on the value of the firm. Earnings after interest payments are taxable in the real world and these are one of the most important reasons for firms to prefer debt financing rather than equity.

Later, Modigliani & Miller (1963) made a correction in 1963, when the first imperfection was introduced: corporate taxes. This proposition recognizes the tax benefit from interest payments that is, because interest paid on debt is tax deductible so it reduces companies' tax liability. However, paying dividends on equity does not have this kind of deduction. In another way, it means the actual rate of interest companies' pay on the bonds they issue is less than the nominal rate of interest because of the tax savings.

However, this topic is still unresolved issue, starting from Modigliani & Miller (1958) the theory of capital structure and its relationship with financial performance of firms became a major issue. And then, many theories developed after that: trade-off theory, pecking order theory and theory of agency cost have introduced.

2.1.2. Trade-Off Theory

Modigliani and Miller ignore bankruptcy cost in both theories conducted on 1958 and 1963. Their assumption was based on there is no bankruptcy cost but in the real world costs resulted

from bankruptcy are most likely to arise when a firms include a high amount of debt in their capital structure and unable to repaid it. As discussed on Brigham & Ehrhardt (2013) trade-off theory consider bankruptcy cost, it discourage firms from using excessive use of debt. It considers two components: the probability of financial distress and the costs that would be incurred if financial distress does occur. Firms whose earnings are more volatile all else equal, face a greater chance of bankruptcy and should therefore use less debt than more stable firms. This theory explains that there is a benefit from including debt on capital structure until an optimal capital structure is attained. A firm's optimal capital structure is the mix of debt and equity that maximizes the stock price. At any point in time, management has a specific target capital structure in mind, presumably the optimal one, although this target may change over time.

As Zurigat (2009) discussed there is certain limits, the presence of agency and bankruptcy costs of debt may offset its tax benefit, suggesting that there is some threshold level of debt, under which the firm's value is maximized. This threshold of debt is generally called the optimal level of capital structure and is defined by the trade-off between costs of debt and its benefits. More precisely, it will be at the point where the marginal benefits of each additional unit of debt equal to its marginal costs. Frydenberg (2004) also describe firm's optimal debt ratio is determined by a trade-off between the losses and gains of borrowing, holding the firm's assets and investment plans constant. The firm substitute's debt for equity or equity for debt until the value of the firm is maximized. The gain of debt is shield advantage arises when paid interest expense on debt is deductible from taxable income.

Generally, trade-off theory state in which firms trade off the benefits of debt financing against higher interest rates and bankruptcy costs. Focusing on unequal treatment of tax between debt financing and equity financing, the theory describes that the firms are generally financed by both equities and debts. The theory primarily deals with the two concepts: cost of finance distress and agency cost. It also deals with the corresponding advantages and disadvantages of the financing either by equity or debt. The trade-off theory actually allows the cost of bankruptcy to exist.

2.1.3. Pecking Order Theory

In finance, capital structure refers to the way in which an organization financed a combination of long term capital (ordinary shares and reserves, preference shares, debentures, bank loans, convertible loan stock and so on) and short term liabilities such as a bank overdraft and trade creditors. A firm's capital structure is then the composition of its liabilities. (Nirajini & Priya, 2013)

Trade off theory did not consider the information asymmetry. However, pecking order theory introduced this issue and which was discussed the conflict between insider and outsider due to information asymmetry. Pecking order theory was developed by Myers & Majluf (1984) because of there is the presence of transaction costs and asymmetric information resulted from raising fund by issuing external equity finance. There is asymmetric information between managers and shareholders. Managers know more than shareholders about the prospect of the firm. Thus investors may not be able to assess the true value of a new issue of securities by the firm. They may be worry that the new shares will turn out to be overpriced. Such worries can explain why the announcement of a stock issue can drive down the stock price. If managers know more than outside investors, the manager will be interested to issues stocks when their companies stock is overpriced but the shareholders didn't know.

This theory suggests that every firm has its own hierarchy for the financing decisions and usually use the internal financing in advance rather than issue equity from outside. In case firms require external funding they would prefer debt over equity and equity is taken as last options. So firms do not have predetermined or optimum debt to equity ratio due to information asymmetry. However, financing from outside sources may require after all internal financing are used.

2.1.4. Agency Cost Theory

According to the agency cost theory developed by Jensen & Meckling (1976) an agency relationship as a contract under which the principals appoint another person (agent) to perform some service on their behalf which involves delegating some decision making

authority to the agent. However the agent will not always act in the best interest of the principals, this relationship creates agency cost. Agency costs are as real as any other costs. The level of agency costs depends among other things: on statutory and common law and human creativity in devising contracts.

The agency cost hypothesized by Jensen & Meckling (1976) states that higher level of debt is associated with better firm performance. This theory suggested that there should be the best combination of debt and equity capital that could eliminate total agency costs. Agency costs are costs which arise in agency conflict between the management and shareholders.

There are three main types of agency costs which can help to explain the relevance of capital structure. Asset substitution effect: as debt to equity ratio increases, management has an increased incentive to undertake risky (even negative NPV) projects. This is because if the project is successful, shareholders get all the upside, whereas if it is unsuccessful, debt holders get all the downside. If the projects are undertaken, there is a chance of firm value decreasing and a wealth transfer from debt holders to shareholders. Underinvestment problem: if debt is risky (e.g. in a growth company), the gain from the project will accrue to debt holders rather than shareholders. Thus, management has an incentive to reject positive NPV projects, even though they have the potential to increase firm value. Free cash flow: managers use free cash flows of the company to invest in projects, to pay dividends, or to hold on cash balance or for other purpose. But if the firm is not committed to some fixed payments, managers have incentives to be excess free cash flows. So, in order to discipline managers, shareholders attract debt. (Nirajini & Priya, 2013)

Jensen (1986) described that control hypothesis does not imply that debt issues will always have positive control effects. Especially for rapidly growing organizations with large and highly profitable investment projects but no free cash flow. Such organizations will have to go regularly to the financial markets to obtain capital. The control function of debt is more important in organizations that generate large cash flows but have low growth prospects, and even more important in organizations that must shrink. In these organizations the pressures to waste cash flows by investing them in uneconomic projects is most serious.

2.2. Review of Empirical Results

There are several empirical studies conducted on the relationship between capital structure variables and financial performance. Some of them have got a result of positive relation, others found negative relation on the other side, and there is also weak to no significant relation.

2.2.1. Positive Relationship from Studies Conducted in Foreign Countries

Below the researcher discuss different empirical studies those are found positive relationship with financial performance.

Nirajini & Priya (2013) try to assess the effect of capital structure on the financial performance of the listed trading company in Sri Lanka by taking sample from the listed companies in Colombo stock exchange. The research conducted on sample of 11 trading listed companies from the total population of 237 listed companies in Sri Lanka and seven years data were collected. Data were collected from the hand book of listed companies published by Colombo stock exchange and individual company's annual reports. They develop a model consist of gross profit margin (GPM), net profit margin (NPM), return on capital employed (ROCE), return on asset (ROA) and return on equity (ROE) as a measure of financial performance and debt asset ratio, debt equity ratio and long term debt as capital structure variables. The finding states that capital structure variables (debt asset ratio, debt equity ratio and long term debt) has a significance positive effect on the financial performance of the firm which is measured by GPM, NPM, ROCE, ROE, and ROA. Finally they recommend that, every firm should make good capital structure decision to earn profit and carry on their business successfully.

Abor (2005) also investigate the relationship between capital structure and profitability of listed firms from Ghana stock exchange for five years period covered 1998 - 2002 by using panel data. Profitability measured by using return on assets (ROA), return on equity (ROE) and gross profit margin (GPM). The leverage ratios used were includes short-term debt to the total capital, long-term debt to total asset (LDA) and total debt to total capital; firm size and sales growth are also included as control variables. The finding shows that there is a

significant positive relation between SDA and ROE, and short-term debt is an important source of financing for Ghanaian firms representing 85 percent of total debt financing. However, there is a negative relationship between long-term debt to total asset and ROE. And also there is a significant positive relation between total debt and ROE.

Githire & Muturi (2015) also examine the effect of capital structure on financial performance of firms listed on Nairobi securities exchange. Their population of interest was firms listed on Nairobi securities exchange and the sample was a census of all firms listed at Nairobi securities exchange for the period between years 2008 to 2013. The study adopted an explanatory non-experimental research by using secondary data, which was obtained from the annual financial statement reports of listed firms, annual investors' report, magazine and articles related to the financial performance of listed firm's panel data. Return on equity was used to measure financial performance, long term debt and short term debt were used as capital structure variables and liquidity ratio, age and sector also used as a control variables. The finding were equity and long term debt have a positive and significant effect on financial performance, while short term debt has a negative and significant effect on financial performance. Thus, this study concludes that equity and long term debt financing enhances financial performance, while short term debts reduce financial performance. Finally they recommend that, in order to benefit from direct control and appropriate utilization of resources, financing through equity is preferable. On the other side, Long term debt financing improves firm's financial performance. Therefore vital for financial institutions to develop a favorable credit policy that will facilitate long term lending by small firms. Firms can benefit from short term debt financing through close monitoring of the management thereby mitigating agency conflicts between shareholders and debt holders as well as the problem of underinvestment.

Adesina et al., (2015) also study the impact of post-consolidation capital structure on the financial performance of Nigeria quoted banks. The research design for this study was survey design. The population of the study was all seventeen quoted banks in Nigeria. They used strata sampling technique as listed banks in the upper strata of banks with high capital structure are brought under their study. Secondary data on equity, debt and annual profits before tax of the ten sampled banks were obtained from their annual reports for the period covered 2005 to 2012. They used profit before tax as a financial performance measure and two capital structure variables: equity and debt used as independent variables. The finding

were concludes that both equity and debt has a positive and significant effect on the financial performance of banks in Nigeria. Finally they make recommendations for both managers and investors to improve financial performance of banks in Nigeria: The management of Nigerian banks' should consider the use of more debt in their capital structure mix as this will reduce the overall cost of capital as a result of its tax advantage, The management of quoted banks in Nigeria should increase the use of equity capital in financing to improve earnings of their banks and investors of quoted banks in Nigeria should also consider the capital structure of any bank before investing in them as the strength of a bank's capital mix determines the level of returns.

2.2.2. Negative Relationship from Studies Conducted in Foreign Countries

In contrast to empirical studies which found positive relationship, many researchers have also found negative relationship. They are discussed below:

Rao et al., (2007) try to investigate the impact of financial leverage on performance of publicly traded Omani companies. Data required for the study was collected from the Muscat Securities Market (MSM) and the capital market authority of the Sultanate of Oman. Totally 144 companies listed on MSM from this number, 93 companies are non-financial firms and were chosen and ranked in descending order by the debt ratio. The top 25% of the companies and the bottom 25% of the companies were chosen and made classified into separate groups. The top 25% of the companies were designated as the "high leverage" group and the bottom 25% of the companies were designated the "low leverage" group. They develop a model of consisting return on asset (ROA), operating profit margin (OPM), return on equity (ROE), net profit margin (NPM) and earnings per share (EPS) as a financial performance measures or as dependent variables and debt ratio, total asset turn over, quick ratio, size, age, CapInv, and diversification as an independent variable. The finding was shows that, there is a negative association between the level of debt and financial performance and the low leverage group clearly outperformed the high leverage group, the finding also shows liquidity, age and capital intensity also have a significant influence on financial performance. Finally they make a suggestion of high debt capital structure is not appropriate for Omani companies. The reasons behind this suggestion are due to the absence of well-developed and very liquid bond

market and also Omani companies are dependent on banks for debt financing. The interest cost in Oman is very high when compared to Western countries, because of unique tax environment in Oman; there is minimal tax advantage from using financial leverage. Oman is an emerging economy. Using high amounts of debt in an economy that is in the emerging stage of development is fraught with risk.

Vătavua (2015) also try to identify how debt-equity mix influences firm performance of listed manufacturing companies from Bucharest Stock Exchange in Romanian. The sample analyzed includes 196 listed Romanian companies operating in the manufacturing industry. Time series and cross sectional data were collected for eight years from 2003 to 2010. Return on Asset (ROA), return on equity (ROE) and earnings per share (EPS) used as financial performance measures, ratios of total liabilities, long-term liabilities and short-term liabilities to total assets, and the equity ratio as capital structure variables and asset tangibility (TANG), tax (TAX), business risk (BR), liquidity and inflation rate (INFL) as control variables. The finding shows that debt ratios and tangibility are negative and equity has positive relationships with ROA. In the second model total debt, short-term debt and tangibility show a statistically significant negative impact and equity has a positive impact on ROE. Finally the conclusion was performance in Romanian manufacturing companies is higher when they avoid debt and operate based on equity.

Le & Phan (2017) assess relationship between capital structure and firm performance based on empirical evidence from a small transition country. Unbalanced panel of secondary annual data were collected from sample of non-financial firms that were listed on Vietnam stock market over the six-year period 2007-2012. ROA, ROE, and Tobin's Q were used as financial performance measures, long-term debt to total assets, short-term debt to total assets and total debts to total assets used as capital structure variables. In the finding that all ratios of long-term debt, short-term debt and total debt in both book and market value are significantly and negatively related to ROA, ROE and Tobin Q.

Madah et al., (2013) also try to find out the impact of capital structure on profitability of companies listed on Karachi stock exchange during the period between years 2004 to 2009. Analysis was based on the data which have been taken from the state bank of Pakistan website and balance sheet analysis of joint stock companies listed on the Karachi stock exchange by selecting 201 listed companies. Variables used were ROE as a financial

performance measure and long term debt, short term debt and total debt as capital structure variables, size, and logarithm of sales, sales growth also used as a control variables. The finding concludes that the long term debt, short term debt and total debt have negative impact on the profitability of selected companies.

Muritala (2012) examines effect of capital structure on firms' performance in Nigeria. Secondary data were gathered from financial statements published by 10 listed non- financial firms for the period of 2006 - 2010. Financial performance measured by return on assets and return on equity, debt ratio used to represent capital structure, asset turnover ratio , size of firm, age, assets tangibility ratio and growth opportunities of firm included as a control variables. The finding shows a negative relationship of debt ratio with both financial performance variables which is ROA and ROE.

Bhattarai (2016) also examine the effect of capital structure on the performance of manufacturing companies listed at the Nepal stock exchange, sample of eight manufacturing companies was selected using convenient sampling method for the study and secondary data were obtained from published annual reports and financial statements of the respective companies covering the years 2004-2014. Financial performance were measured by return on assets and total debt ratio, long-term debt ratio and short-term debt ratio used as capital structure variables and size of firm, asset tangibility, and growth rate were used as a control variables. The finding shows that capital structure variables (total debt ratio, long-term debt ratio and short-term debt ratio) has a significant negative relationship with the financial performance of Nepalese manufacturing companies which is measured by ROA. The study concludes that higher use of debt in capital structure reduces the performance of Nepalese manufacturing companies.

2.2.3. Weak to No Effect Relationship from Studies Conducted in Foreign Countries

Many empirical studies found either positive or negative relationship between capital structure decisions and firm's financial performance. However, there are studies found weak to no impact association: Ebaid (2009) and Maina, & Ishmail (2014) found that there is no significant relation between capital structure and financial performance of firms. The study conducted by Ebaid (2009) empirically examine the impact of capital structure choice on firm performance by taking empirical evidence from Egypt companies listed on Egyptian stock exchange during the period 1997-2005 by taking a sample of 64 firms from these firms ten of them were nonfinancial firms. The variables used were return on assets, return on equity and gross profit margin as a performance measure and short term debt to total assets (STD), long term debt to total assets (LTD) and total debt to total assets as capital structure variables (TTD) and firm size were used as control variables in the model. The study were founds that STD and TTD has a negative effect on Egypt firm's performance when it measured by ROA. On the other hand capital structure (STD, LTD, and TTD) has no significant impact on firm's performance measured by ROE and GM. These results conclude that capital structure choice has a weak-to-no impact on firm's performance in Egypt.

Maina & Ishmail (2014) also examine the relation between capital structure and financial performance of firms listed at the Nairobi Securities. Secondary data were collected from the financial statements and panel data of observations on a cross-section of units over periods from sample of a census of all firms listed at the Nairobi security exchange from year 2002-2011. ROA, ROE and Tobin's Q was used as a performance measures DE, TA, LDE, SIZE, TANG, SG and GROW were used as independent variables. Finally the finding were capital structure choice measured by (LDE, DE and TA) has no significant impact on Kenyan listed firms' performance measured by (ROE, ROA and Tobin's Q) and the only model showing a negative and significant relationship between capital structure measured by DE and financial performance measured by ROA.

2.2.4. Studies Conducted in Ethiopia Context

In the context of Ethiopia Kifle (2016), Tufa (2016), Liku (2017), Melese (2013), Hailu (2015), Getahun (2016), Gebremichael (2016), Negasa (2016) and Aragie et al., (2015) try to assess the relation between capital structure and firms profitability. Kifle (2016) applied explanatory type of research design to study effect of capital structure on financial performance of Ethiopian cement companies. Secondary data were collected from the sample of 8 cement companies in Ethiopia during the period of 2010-2014. A capital structure which is measured by long term debt to equity ratio and financial performance measured by ROA and ROE, several control variables were in use: size, tangibility, growth opportunity, capital adequacy, liquidity, business risk and gross domestic product. The finding shows capital structure has significant positive relationship with financial performance when capital structure and financial performance is measured by long term debt to equity ratio and return on asset (ROA) respectively. However, the study also get capital structure also has significant negative relationship with financial performance when capital structure and financial performance is measured by long term debt to equity ratio and return on equity (ROE) respectively.

Liku (2017) also try to identify the effect of capital structure on financial performance of microfinance institutions in Ethiopia. Total populations of the study were 34 microfinance institutions and the sample selected was 18 microfinance institutes under category A and B only. Panel data analysis technique was in use and secondary data were collected for the period of 2010-2015. ROE was used as a financial performance measure and debt to asset ratio (DTAR), interest coverage ratio and loan to deposit ratio as a capital structure variables and firm size and firm age were control variables. The finding shows that most of the microfinance institutions had employed high leverage and capital structure variables do have a positive relation with financial performance of microfinance institutions in Ethiopia. Finally, the study recommended that microfinance institutions in Ethiopia should employ more debt, which is up to optimal level in to their capital structure, so as to maximize their financial profitability.

Tufa (2016) also tries to analyze the impact of corporate capital structure on profitability based on the data from manufacturing firms in Ethiopia. The researcher applied quantitative methods of research design and secondary data were collected by combining cross-sectional and time series data by review of annual financial reports for the period of 2010-2014. Population of the study was large tax payers manufacturing share companies and from them 34 samples were selected using random sampling techniques. Capital structure variables in use were interest coverage ratio (ICR), debt ratio (DR), debt to equity ratio (DE), long term debt to capitalization ratio (LDCR), short term debt to total liability (SDTL) and long-term debt to total liability (LDTL) and control variables: size (SZ), sales growth rate (SG) and tangibility (TN) and profitability was measured by return on capital employed (ROCE). The finding shows that, a significant positive relationship between capital structure variables (short-term liabilities to total liabilities ratio, long-term debt capitalization ratio and interest coverage ratio) and profitability (ROCE). Based on the research findings pecking order theory would better reflect the current corporate capital structure strategies of large tax payer manufacturing firms in Ethiopia. The study recommended that an appropriate mix of capital structure should be adopted in order to increase the profitability of manufacturing firms and short term debt rather than long term ones are correlated with positive financial performance.

There is also another study conducted in Ethiopia by Melese (2013). The objective of the study was to assess the effect of capital structure on financial Performance of Ethiopia metal and engineering industry by using secondary data collected from annual financial reports from 2007 to 2012. ROE was used as a performance measure and total debt ratio, short term debt ratio and long term debt ratio were used as capital structure variables and firm size, asset tangibility, asset turnover also used as control variables. Panel data analyses were used: 6 years data from 10 selected companies out of 78 populations. The finding of the study shows a positive effect of capital structure variables (debt ratio, short term debt ratio and long term debt ratio) on financial performance of Ethiopian metal and engineering industry but long term debt ratio were insignificant. The results of all capital structure measures supported that the metal and engineering industry follows the arguments of trade off capital structure theories. The researcher recommends that the companies under Ethiopian metal and engineering should determine the optimal capital structure beyond understanding to the positive impact of debt.

Hailu (2015) also try to study the impact of capital structure on profitability of commercial banks in Ethiopia by using secondary type of data which collected from a sample of eight banks for twelve years (2001/02 to 2012/13). Net interest margin (NIM) was used as a measure of performance and total debt to asset ratio, deposit to asset ratio and loan to deposit ratio as a capital structure variables and spread, growth and asset size as a control variables. The finding shows that capital structure as measured by total debt to asset had statistically significant negative impact on financial performance of banks. Finally, the researcher recommend Ethiopian commercial banks to place greater emphasis on rising equity capital through retained earnings or issuing shares of stocks in order to obtain capital financing and advised to reduce non-deposit source of debt financing.

Getahun (2016) also tries to assess the effect of capital structure on the financial performance of insurance industries in Ethiopia. It was based on secondary data from nine insurance companies. Return on asset were used as a measure of financial performance and capital structure were represented by firm leverage and growth opportunities, firm size, tangibility of fixed asset, liquidity and business risk were used as control variable. Finally, the finding shows that firm leverage, size, tangibility and business risk has significant effects on performance of Ethiopian insurance companies. The result shows that leverage has negative relation with the financial performance of Ethiopian insurance industry. Finally, the researcher recommends that managers shall not use excessive amount of leverage in their capital structure.

Gebrehiwot (2016) also examine the impact of capital structure on the profitability of commercial bank of Ethiopia based on 5 years secondary data collected from financial recorded data of commercial bank of Ethiopia for twelve years (2011/12 to 2015/16). Net interest margin were used to measure financial performance and total debt to total asset, deposit to asset, loan to deposit and spread as a capital structure variable and growth and asset size were used as a control variables. The finding of the study shows that the leverage as measured by total debt to total asset had statistically significant negatives relationship with profitability and the researcher recommended managers to use more retained earing or equity financing.

Negasa (2016) try to study the effect of capital structure on firms' profitability of Ethiopian large private manufacturing firms. Secondary data collected from audited financial statements from the randomly selected thirty three large private manufacturing firms for the period covered five years (2006/07-2010/11G.C). ROA were used to measure financial performance and debt ratio as a capital structure variable and growth rate, firm size, assets tangibility, liquidity and non-debt tax shield were also used as control variables. The finding of this study was a significant positive relationship between firms' profitability and capital structure which means support static trade-off theory.

Aragie et al., (2015) also tries to examine the relationship between capital structure and financial performance of commercial banks in Ethiopia. The data was relied on secondary panel data collected from annual reports of eight sample commercial banks for the period covered 2000-2012. The researchers use return on asset, return on equity and net profit margin as a dependent variables to measure financial performance and total debt to total asset and total debt to total equity used as a capital structure variables and firm's size also used as a control variable. The finding were shows that leverage has a positive effect on the financial performance of commercial banks in Ethiopia when performance measured by return on equity. In contrast, similar analyses indicate that leverage has a significant negative effect on performance of commercial banks in Ethiopia when performance is measured by return on asset and net profit margin. These contradict finding support both trade off theory and pecking order theory of capital structure. Therefore, the researchers suggest that Ethiopia banking industry should make capital structure at optimal.

2.3. Summary of Prior Literatures and knowledge Gap

Since the theory of capital structure and its effect on firm value developed by Modgliani & Miller in 1958, the topic continued controversially. Modigliani and Miller (1958) based on the assumption in which a world without taxes and perfect capital market, and the conclusion was the value of the firm does not affected by its choice of capital structure. But later in 1963, Modigliani and Miller incorporate corporate tax, and their study starts to consider advantage resulted from tax shield the value of the firm may affected. After this many theories developed: trade-off theory, pecking-order theory, and agency-theory. Trade of theory focus on balancing of advantages and disadvantages of the financing through debt, Pecking order

theory recommend use of internal financing in advance and if firms require external funding they would prefer debt over equity and equity is taken as a last options, Agency theory explain advantages of debt by considering asset substitution effect, underinvestment problem and free cash flow effect to eliminate disputes from managers and shareholders. Additionally, there are many empirical studies conducted on this topic, but most of their findings contradict each other. In the context of Ethiopia, there are many studies conducted on the determinant of capital structure but without relating it with its effect on financial performance: Mekonnen (2011) in the case of manufacturing share companies of Addis Ababa city, Kebede (2011) in the case of Ethiopian Small Scale Manufacturing Cooperatives, Asefa (2017) in the case of Ethiopian Micro Finance Institutions, Kinde (2013) in the case of Ethiopian Insurance Companies, Umer (2013) in the case of Large Taxpayer Share Companies in Ethiopia, Beshir (2015) in the case of Ethiopian Insurance Companies, Gebremichael (2017) in the case of private commercial banks in Ethiopia, Sendeku (2016**)** in the case of Ethiopian Insurance Companies. The research's listed above didn't consider effect of capital structure on financial performance. However there are also other studies in Ethiopia that consider this effect but found different finding from one another. Some of them found positive relationship between capital structure and firms financial performance: Tufa (2016), Kifle (2016) when financial performance is measured by ROA, Liku (2017) and Melese (2013), Aragie et al., (2015)when financial performance is measured by ROE , Negasa (2016) and Birru (2016) When capital structure measured by debt ratio and financial performance measure by ROA and ROE and also when capital structure measured debt to equity ratio and when financial performance measured by ROE the result was shows positive relationship. On the other side there are also studies found negative relationship, Hailu (2015), Kifle (2016) when financial performance is measured by ROE, Getahun (2016), Gebremichael (2016), Aragie et al., (2015) when financial performance is measured by return on asset and net profit margin and Birru (2016) when capital structure measured debt to equity ratio and when financial performance measure and ROA. From foreign studies those found positive relationship between capital structure and firms financial performance: Nirajini & Priya (2013), Abor (2005), Githire & Muturi (2015), Adesina et al., (2015), On the other side, Rao et al., (2007), Bhattarai (2016), Muritala (2012), Madah, Sultan, & Farooq (2013) Vătavua (2015), Le & Phan (2017), Ebaid (2009), and Maina & Ishmail (2014) found negative relation. This result indicates that the topic is still inconclusive in Ethiopia.

In Ethiopia, as far as the knowledge of the researcher, there are many studies conducted on the determinants of capital structure more than studies on the effect of capital structure on the financial performance of the firms. And also from studies conducted by considering its effect on financial performance, most of them are conducted in insurance and banking industry than other sector. From studies conducted in Ethiopian nonfinancial sector as far as the knowledge of the researcher there are few studies: Kifle (2016) in the case of cement manufacturing companies, Tufa (2016) in the case of manufacturing companies, Melese (2013) in the case of metal and engineering industry and Negasa (2016) in the case of Ethiopian Large Private Manufacturing Firms. From these studies most of them use only one financial performance measuring variables except Kifle (2016). Based on discussed knowledge gap the researcher wants to study the effect of capital structure on financial performance of Food and Beverage Manufacturing Companies (FBMCs) by using two financial performance variables (ROA and ROE). So, this study tries to fill the knowledge gap on the effect of capital structure on financial performance of FBMCs in Ethiopia.

2.4. Conceptual Frame Work

The summary of variable used by different researchers previously is stated below in the table:

Table 2.1: Summary of Financial performance measures used in previous studies

Authors	**Financial Performance Measures**
Kifle (2016), Vătavu (2015) and Muritala (2012)	ROA and ROE
Liku (2017) and Madah et al., (2013)	Only ROE
Tufa (2016)	Return on capital employed (ROCE)
Haile (2015)	Net interest margin (NIM)
Nirajini (2013)	Gross profit margin (GPM), Net profit margin (NPM), Return on capital employed (ROCE), Return on asset (ROA), and Return on equity (ROE)
El-Sayed Ebaid (2009)	ROA, ROE and Tobin's Q
Bhattarai (2016)	ROA

Abor (2005)	Return on assets (ROA), Return on equity (ROE), and Gross profit margin (GM)
Rao et al., (2007)	ROA, Operating profit margin (OPM), Return on equity (ROE), Net profit margin (NPM), and Earnings per share (EPS)
Melese (2013)	ROE
Hailu (2015)	Net interest margin (NIM)
Getahun (2016)	ROA
Gebremichael (2016)	Net interest margin (NIM)
Negasa (2016)	ROA
Aragie et al., (2015)	ROA, ROE and NIM

Table 2.2: Summary of Capital structure measures used in previous studies

Authors	**Capital Structure Measures (Independent Variables)**
Nirajini & Priya (2013)	Debt Equity ratio (DE), Debt Asset ratio (DA) and Long Term Debt ratio(LTD)
Rao et al., (2007)	Debt Ratio (DR)
Abor (2005)	Short Term Debt to total capital (SDA), Long-Term Debt to Total Capital (LDA) and Total Debt to Total Capital (DA)
El-Sayed Ebaid (2009)	Short Term Debt (STD), Long Term Debt (LTD) and Total Debt (TTD)
Vătavu (2015)	Total Debt (TD), Long Term Debt (LTD), Short Term Debt (STD, and the Total Equity ratio (TE)
Tufa (2016)	Interest Coverage ratio (ICR), Debt ratio (DR), Debt to Equity ratio (DE), Long Term Debt to Capitalization ratio (LDCR) and Short Term Debt to Total Liability (SDTL)
Maina & Ishmail, (2014)	Debt Equity ratio (DE), Total Debt to Asset (TDA) and Long Term Debt to Equity (LDE)
Le & Phan (2017)	Long Term Debt to Total Assets (LTD), Short Term Debt to Total Assets (STD),and Total Debts to Total Assets (TD)

Githire & Muturi, (2015)	Equity component , Long term debt component and Short term debt
Madah et al., (2013)	Long Term Debt (LTD), Short Term Debt (STD) and Total Debt (TD)
Kifle (2016)	Long Term Debt to Equity ratio (LTDE)
Liku (2017)	Debt to Asset ratio (DTAR), Savings (Deposit) to Assets and Interest Coverage Ratio
Muritala (2012)	Debt Ratio (DR), Asset Turnover ratio (TURN)
Bhattarai (2016)	Total Debt ratio (TDR), Long Term Debt ratio(LDR) and Short Term Debt ratio (SDR)
Melese (2013)	Total debt ratio, Short term debt ratio and Long term debt ratio
Hailu (2015)	Total debt to asset ratio, Deposit to asset ratio and Loan to deposit ratio
Getahun (2016)	Firm Leverage
Gebremichael (2016)	Total Debt to Asset, Deposit to Asset, Loan to Deposit and Spread
Negasa (2016)	Debt Ratio
Aragie et al., (2015)	Total Debt to Total Asset and Total Debt to Total Equity

Table 2.3: Control variables used in previous studies

Authors	**Control Variables**
Rao et al., (2007)	Total Asset Turnover ratio , Quick Ratio, Size, Age, Cap Inv, Inventory, and Diversification
Abor (2005)	SIZE and Sales Growth (SG)
El-Sayed Ebaid (2009)	Size
Vătavu (2015)	Asset Tangibility (TANG), Tax (TAX), Business Risk (BR), Liquidity (LIQUID), and Inflation rate (INFL)
Tufa (2016)	Size (SZ), Sales Growth rate (SG) and Tangibility (TANG)
Maina & Ishmail (2014)	SIZE, Growth Opportunity (GROW), Tangibility ratio and Sales Growth (SG)

Le & Phan (2017)	Growth (GRO), Tangibility (TAN), Tax (TAX), Risk (RISK), Investment (INV), Cash Flow (CF), Profitability (PRO), Liquidity (LIQ) and Dividend (DIV)
Madah et al., (2013)	SIZE and Sales Growth (SG)
Kifle (2016)	Size, Tangibility, Growth Opportunity (GO), Capital Adequacy (CA), Liquidity, Business Risk(BR) and Gross Domestic Product (GDP)
Liku (2017)	Loan to Deposit Ratio, Firm Size and Firm Age
Muritala (2012)	SIZE, AGE, Asset Tangibility (TANG) and Growth Opportunities (GO)
Bhattarai (2016)	SIZE , Asset Tangibility (TANG) and Growth
Melese (2013)	Firm Size, Asset Tangibility and Asset turnover
Hailu (2015)	Spread, Growth and Asset Size
Getahun (2016)	Growth opportunities, Firm Size, Tangibility, Liquidity and Business Risk
Gebremichael (2016)	Growth and Asset Size
Negasa (2016)	Growth rate, Firm size, Tangibility, Liquidity and Non-debt tax shield
Aragie et al., (2015)	Firm's Size

Based on theories and empirical literature of capital structure and firms financial performance, the following conceptual model is formulated to examine the effect of capital structure on financial performance of Ethiopian food and beverage manufacturing companies (FBMCs). The variables used to develop the conceptual framework were in reference to the above empirical studies.

Table 2.4: Conceptual framework

Dependent Variables (Financial Performance)	**Independent Variables (Capital Structure)**	**Control Variables**
Return on Asset (ROA)	Long Term Debt Ratio (+)	Size (+)
Return on Equity (ROE)	Short Term Debt Ratio (+)	Growth (+)
		Asset Tangibility (+)
		Inflation (-)

(Source: Based on the above listed Authors design and compiled by the researcher, 2018)

Chapter Three - Research Methodology

The objective of this study is to examine the effect of capital structure on the financial performance of food and beverage manufacturing companies (FBMCs) in Ethiopia for the period covered 2013 - 2017. The purpose of this chapter is to present the research methodology used in the study. The chapter includes the research design, target population and research instruments. The chapter also presents how the validity and reliability of the model developed were ensured.

3.1. Research Design

Research design is the blueprint for fulfilling research objectives and answering research questions. In other words, it is a master plan specifying the methods and procedures for collecting and analyzing the required information. In addition, it must ensure that the information collected is appropriate for solving a problem. (Adams et al., 2007)

A choice of research design is based on the objective of the research; the objectives of this research were to investigate the effect of capital structure on the financial performance of FBMCs. So, the researcher uses a type of Explanatory research, because it aims at, explaining social relations or events, advancing knowledge about the structure, process and nature of social events, linking factors and elements of issues into general statements and building, testing or revising a theory. Adams et al., (2007)

Based on the objective of the research, the researcher were used a quantitative approach. According to Creswell (2003) if the research problem is wants to identify factors that influence an outcome, or understanding the best predictors of outcomes, then a quantitative approach is the best choose. Quantitative approach also raised the postpositivist perspectives. Postpositivism reflects a deterministic philosophy in which a need to examine causes that influence an outcomes, this provide a chance to the researcher to examine the interaction between capital structure and their influence on financial performance. So, using quantitative approach in this study is the best suit. It also deductionistic in that the intent is to reduce the ideas into a small, discrete set of ideas to test. In this study, the researcher also reduces ideas

of capital structure to different components: long term debt, short term debt and different control variables and try to link with financial performance of the firms.

According to Creswell (2003) the knowledge that develops through a postpositivist is based on careful observation and measurement of the objective reality by developing numeric measures of observations, and need to be tested or verified and refined. Thus, in the scientific method, the accepted approach to research by postpostivists an individual begins with a theory collects data that either supports or refutes the theory, and then makes necessary revisions before additional tests are conducted. In this study also the researcher develop numerical measurement that represent the actual figures for different components of capital structure and financial performance for the selected companies and then test different theories developed before.

Different researchers also argued on different theories of capital structure and one of the objectives of this research is to verify previous theories by using quantitative approach based on results from numerical measurement that represent the actual figures.

3.2. Population of the Study and Sample Size

Sampling is the process or technique of selecting a suitable sample for the purpose of determining parameters or characteristics of the whole population. (Adams et al., 2007).
The population of the study is Forty Three manufacturing companies operated in Food and Beverage industry and their schedule is categorized under Large Taxpayers Office (LTO), Thirteen FBMCs, are selected based on their category is under LTO and from working on Food and Beverage sector and accessibility of their data for tax officers of LTO. From forty three FBMCs, thirteen are selected as the sample for the study, out of these thirteen FBMCs, eight of them are share companies and the remaining five are private limited companies (PLC). Sample selection is conducted by using purposive sampling technique. According to Etikan (2016) purposive sampling techniques is judgment sampling, it is the deliberate choice of a participant due to the qualities the participant possesses. It is a nonrandom technique that does not need underlying theories or a set number of participants.

Share companies are selected because of their ownership type since share companies can sale shares to existing shareholders or to the new investors easily to raise equity finance, and also there are many parties those have public interest on share companies. So, the researcher wants to make study on this sector by sampling eight share companies and the other five PLCs are added to increase the power of the sample result to the actual and to ease of generalization. PLCs also selected based on purposive sampling technique by their accessibility of data for the researcher. Therefore, out of forty three food and beverage manufacturing companies categorized under LTO, the following thirteen companies are selected for this research purpose.

Based on the samples selected, researcher can generalize the finding. Generalization is the ability of a statistical model to say something beyond the set of observations. If a model generalizes it is assumed that predictions from that model can be applied not just to the sample on which it is based, but to a wider population from which the sample is selected. (Field, 2009)

3.3. Type and Source of Data

The researcher use secondary data for this study, according to Tharmila & Arulvel (2013) secondary data is a type of data that have been previously collected for some other project rather than the one at hand but found useful by the researcher. The researcher collected audited financial statements particularly balance sheet and income statement for a period covered five years (2013-2017). The reason behind the researcher considers only five years data is difficulty to collect many years' data because of time and company specific constraints. The reason behind using only secondary data is because of the information for this topic is accessible from secondary data sources and also, secondary data is easier to use and tends to be more comprehensive and also useful for the researcher to concentrate on the data analysis and interpretation and also collecting primary data is expensive, time-consuming and difficult.

However, the main problem of using secondary data would be lack of willingness to get relevant source of information directly from selected companies and its reliability. By considering this in order to avoid the risk of distortion in the quality of the data, the required

data was collected from the financial statements submitted to the Ethiopian Revenue and Customs Authority - Large Tax Payer (LTO), by the companies for annual tax declaration purpose.

Since the main objective of this study is to assess the effect of capital structure on the financial performance of FBMCs, the researcher use Panel research design by combining cross-sectional and time series data, by collecting five years data from thirteen FBMCs. One can increase the number of degrees of freedom and accordingly the power of the test. The additional variation introduced by combining the data in this way can also help to mitigate problems of multi-collinearity that may arise if time series are modeled individually. Third, structuring the model in an appropriate way, we can remove the impact of certain forms of omitted variables bias in regression results (Brooks, 2008).

3.4. Variables Description

3.4.1. Dependent Variable - Performance Measures Variables

Dependent variables are variables that we are trying to study or what we are trying to measure. It depends on independent variables if the researcher change the independent variable, its result will change. (O'leary, 2004)

There are different financial performance measures used in previous literatures taken as a base to develop different variables in the model for this research. As described by Rao et al., (2007) management researchers prefer accounting measures of performance, such as return on equity (ROE), return on investment (ROI), and return on assets (ROA), along with the variability in these returns measures. Return on investment (ROI) measures how much money was made on the investment as a percentage of the purchase price. Researchers from finance and economics look to prefer market returns or cash flow measures along with their variability as performance measures. The performance measures typically measure an accounting rate of return. The idea behind this measure is perhaps to evaluate performance from a managerial standpoint. Return on investment (ROI), return on capital (ROC), return on assets (ROA) and return on sales (ROS) are essentially efficiency measures. That is, how well management is using the assets to generate accounting returns per dollar of investment,

assets or sales. ROA and ROE are the most frequently used performance measures in previous studies.

However, from the variables used to measure financial performance in the previous studies, some of them could not be apply for this study. Like Tobin's Q ratio, measure of firm's assets in relation to a firm's market value, it is difficult to use market performance measures in Ethiopian context because of difficulty in knowing market value of the firms due to the absence of active secondary market. NIM also used by Haile (2015) but this variable cannot be applied for manufacturing sectors as a financial performance measure. Though, based on the prior literatures and this study research topic the researcher use book values measures (ROA and ROE) as a measure of firm's financial performance.

Return on Asset (ROA)

Return on assets measures the amount of profit the company generates as a percentage of the value of its total assets. The profit percentage of assets varies by industry but in general, the higher ROA related to better financial performance. For this reason it is often more effective to compare a company's ROA to that of other companies in the same industry or against its own ROA figures from previous periods. This variable were used by in prior studies by Kifle (2016), Vătavu (2015), Muritala (2012), Nirajini (2013), Ebaid (2009), Bhattarai (2016), Abor (2005), Rao et al., (2007), Getahun (2016), Negasa (2016) and Aragie et al., (2015)

$$ROA = \frac{\text{Net Income}}{\text{Total Asset}}$$

Return on Equity (ROE)

Return on equity (ROE) show the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. The measurement is commonly used by investors to evaluate current and prospective business investments. This variable were used in prior studies by Kifle (2016), Vătavu (2015),

Muritala (2012), Liku (2017), Madah et al., (2013), Nirajini (2013), Ebaid (2009), Abor (2005), Rao et al., (2007), Melese (2013) Aragie et al., (2015).

ROE = Net Income
Total Equity

3.4.2. Independent Variables - Capital Structure Measures

Independent variables are variables causing an effect on the things we are trying to understand. It can take different values and can cause corresponding changes in dependent variables. (O'leary, 2004)

Based on prior studies and from the research topic the researcher use long term debt ratio (LTD) and short term debt ratio (STD) as capital structure variables.

Long Term Debt Ratio (LTD)

Long-term debt to total asset ratio is a measurement representing the percentage of a corporation's assets financed with loans or other financial obligations lasting greater than one year. This variable were also used by Nirajini & Priya (2013), Abor (2005), Ebaid (2009), Vătavu (2015), Tufa (2016), Maina & Ishmail (2014), Le & Phan (2017), Githire & Muturi (2015), Madah et al., (2013), Kifle (2016), Bhattarai (2016) and Melese (2013). From these empirical studies, Melese (2013), Tufa (2016) and Githire & Muturi (2015) found a positive relation between long term debt and financial performance of firms. Tufa (2016) suggested that, it is important that manufacturing firms look for long term debt potentials. Even where internal financing would be used, these firms should search for low interest-bearing loans so that advantages of the loan will exceed the financial distress associated with it. Based on this the researcher expect a positive relation between long term debt and financial performance, since scope of this study is on manufacturing companies by selecting one sector which is food and beverage industry.

The ratio is computed as:

LTD = Total Long Term Debt
Total Asset

Hypothesis 1: There is positive and significant relationship between long term debt ratio and financial performance of Ethiopian Food and Beverage Manufacturing Companies.

Short Term Debt Ratio (STD)

Short-term debt describes liabilities that are to be paid within one year. This ratio used as a measure of capital structure by different empirical studies: Tufa (2016), Melese (2013), Abor (2005), Githire & Muturi (2015), Madah et al., (2013), Ebaid (2009), Vătavu (2015). From these studies Tufa (2016), Melese (2013) and Abor (2005) found a positive relation between short term debt and financial performance. As evidenced by Abor (2005) and Melese (2013) short term debts are less expensive in which increasing short term debt with a relatively low interest rate will lead to an increase in performance level. Based on this the researcher expect a positive relation between short term debt and financial performance of food and beverage manufacturing companies.
The ratio is computed as:

STD =Total Short Term Liability
Total Asset

Hypothesis 2: There is positive and significant relationship between short term debt ratio and financial performance of Ethiopian Food and Beverage Manufacturing Companies.

Table 3.1: Summary of independent variables used in the study and their expected sign

Category	Variables	Measurement	Expected Sign
Independent Variables	**LTD**	Total Long Term Debt / Total Asset	+
	STD	Total Short Term Liability / Total Asset	+

3.4.3. Control Variables

There are other factors which may affect financial performance of FBMCs but these are variables which do not directly related to the research question or hypothesis are called control variables. Based on prior studies which, the researcher develops Size, Asset Tangibility (TAN), growth (GRO) and Annual Inflation Rate (INF) as control variables.

Growth

Firm's sales growth in relation to asset growth is one of an important determinant of a firm's performance. Coban (2014) also tries to study the interaction between firm growth and profitability for the listed Turkish manufacturing firms over the period of 1977-2012 and the finding supported that growth affects profitability and also in reverse profitability supports growth positively. Different prior empirical studies proved significant positive relation between growth and financial performance: Maina & Ishmail (2014), Le & Phan (2017) and Bhattarai (2016), Kifle (2016), Abor (2005), Hailu (2015), Tufa (2016), Muritala (2012), Madah et al., (2013), Getahun (2016) and Negasa (2016).

The ratio is computed as:

$$GRO = \frac{\text{Total Sale Current Year - Total Sale Prior Year}}{\text{Total Sale Current Year}}$$

Based on this the researcher develop the following hypothesis.

Hypothesis 3: There is positive and significant relationship between growth and financial performance of Ethiopian Food and Beverage Manufacturing Companies.

Size

Size of the firm is total asset and considered to be an important determinant of a firm's performance. There are different researcher's uses this variable: Rao et al., (2007), Abor (2005), Ebaid (2009), Tufa (2016), Maina & Ishmail (2014), Melese (2013), Kifle (2016), Negasa (2016), Gebremichael (2016), Getahun (2016), Hailu (2015), Melese (2013) and Aragie et al., (2015). As evidenced by Melese (2013) due to the capacity larger companies can exploit economies of scale and scope, they would be more efficient, have greater access to long term capital from financial institutions and they could have also a greater power in competitive market than smaller companies. As Bhojraj & Sengupta (2003) discussed, economies of scale in underwriting suggest that the firm size would be inversely related to bond yields and positively associated with credit ratings. So it has a positive effect on financial performance of the firms. Based on this the researcher expect a positive relation between firms size and financial performance of food and beverage manufacturing companies.

It computed as logarithm of total assets to achieve the normal distribution and linearity Size of a company.

SZ= natural logarithm (Total assets)

Hypothesis 4: There is positive and significant relationship between firm's size and financial performance of Ethiopian Food and Beverage Manufacturing Companies.

Asset Tangibility

Asset tangibility refers to a firm's investment in tangible assets. Tangibility is related to higher flexibility in financing decision and cheaper access to finance. This variables used by different previous empirical studies as a control variable: Vatavu (2015), Tufa (2016), Maina

& Ishmail (2014), Muritala (2012), Bhattarai (2016), Le & Phan (2017), kifle (2016), Melese (2013), Getahun (2016) and Negasa (2016). From these studies Le & Phan (2017), kifle (2016) and Melese (2013) found a positive relation between asset tangibility and financial firm's performance. Based on this, the researcher expects a positive relation between asset tangibility and financial performance of food and beverage manufacturing companies.

The ratio is computed as:

$$TAN = \frac{\text{Total Fixed Asset}}{\text{Total Asset}}$$

Hypothesis 5: There is positive and significant relationship between asset tangibility and financial performance of Ethiopian Food and Beverage Manufacturing Companies.

Inflation Rate

All variables listed above are from firm specific factors. Therefore, the researcher wants to include one macroeconomic variable which is inflation. Measure of how fast a currency loses its value. Inflation rate measures how fast the purchasing value of money goes, or how much less one unit of currency buys now compared to one unit of currency at a given time in the past. It is a macroeconomic as described by Vătavu (2015) annual inflation rate are some of the most influential factors for financing decisions in manufacturing firms because lending interest rate is adjusted with respect to annual inflation rate. Therefore it will be used as control variable along with capital structure variables in order to study their relationships with firm performance.

Hypothesis 6: There is negative and significant relationship between inflation rate and financial performance of Ethiopian Food and Beverage Manufacturing Companies.

Table 3.2: Summary of control variables used in this Study

Variables	Formulas	Expected Sign
Size	Log of Total Asset	+
Asset Tangibility	Fixed Asset / Total Asset	+
Inflation Rate	Annual Inflation Rate	-
Growth	Total Sale / Total Asset	+

3.5. Model Specification

Financial Performance = f (Capital Structure)

Model 1

ROA= $\alpha + \beta 1\ (LTD) + \beta 2 \log (STD) + \beta 3\ (GRO) + \beta 4\ (SIZE) + \beta 5\ (TAN) + \beta 6 \log (INF) + \varepsilon it$

Model 2

ROE= $\alpha + \beta 1\ (LTD) + \beta 2\ (GRO) + \beta 3 \log (SIZE) + \beta 4\ (TAN) + \beta 5\ (INF) + \varepsilon it$

Where:

ROA= Return on asset

ROE= Return on equity

α =Constant coefficient

β= Regression coefficients for measuring independent variables

LTD= Long term debt ratio

Log (STD) = Logarithm of Short term debt

Log (SIZE) = Logarithm of Firms size

GRO= Growth

TAN= Asset tangibility

INF = Annual inflation rate

Eit = Error component showing unobserved factor

3.6. Data Analysis

Descriptive statistics are used to describe and summarize the basic features of data in the study and used to present quantitative descriptions in a manageable form. According to O'leary (2004) the main function of descriptive statistics is to provide measures of central tendency, dispersion, and distribution shape. Therefore, the researcher use descriptive analysis to analyze the data by showing in the form of simple ratio, percentages, tables and graph.

The researcher use multiple regression to make analysis for the effect of capital structure on financial performance of food and beverage industry by utilizing time series and cross sectional data analysis technique. Since, Kothari (2004) describe that multiple regression is adopted when the researcher has one dependent variable which is assumed to be a function of two or more independent variables. The objective of this analysis is to make a prediction about the dependent variable (financial performance variables) based on its covariance with all the concerned independent variables (capital structure variables). Statistical packages, E-views software version 10 used to analyze the collected data.

According to Gujarati (2004) regression analysis is a study concerning on the relationship of dependent variable with one or more independent variables in estimating or predicting the population means or average of dependent variable from the fixed values of independent variables. In this study, the regression model is exercised in the form of linear regression. Regression type in which this study employs is a panel data analysis by implementing Ordinary Least Square (OLS) method. OLS regression analysis constitutes an approach in predicting or forecasting the dependent variable based on one or more independent variable in such a manner that the error term or residual between predicted variable and real variable is minimized as small as possible.

The reason for using OLS offers the most reliable way in predicting the relationship between dependent variable and independent variable which is the main objective of this study.

Hausman test will in use to decide appropriate model for this study between random and fixed effect model. Diagnostic tests also will use in order to check the validity of the model based on the assumption of the CLRM. To ensure that the data suits the basic assumptions of classical linear regression model, tests for the assumption will be manage in this study those are: Heteroskedasticity test, Autocorrelation test, Normality test and test for Multicollinearity.

Chapter Four – Data Presentation, Analysis and Interpretation

As previously mentioned in previous chapters, the main objective of this study is to assess the effect of capital structure on the financial performance of Ethiopian food and beverage manufacturing companies (FBMCs). This chapter presents the results from data regression analysis and major findings and also tries to compare the results with finding of prior empirical studies. The analysis are based on secondary data obtained from selected thirteen food and beverage manufacturing companies annual financial reports for the period covered five years (2013-2017).

4.1. Model Specification Test

There are broadly two classes of panel estimator approaches that can be employed in finance research: fixed effects model and random effects model. In order to select the appropriate model which provide consistent estimates for this study, Hausman test was employed. Hausman test used to test whether a random effects approach or a fixed effects model is valid for panel regression of this study. Fixed effect model is the most commonly type of model used for panel data that employs dummies to account for variables that affect the dependent variable cross-sectionally but do not vary over time. Generally it explores the relationships between explanatory variables and explained variable in separate entities, assuming that companies have their own characteristics that influence the relationships between variables. On the contrary, random effects model is a type of panel data model specification where the intercepts vary cross-sectionally as a result of each cross-sectional entity having a different error term. Means it imply a random variation across companies, uncorrelated to explanatory variables (Brooks, 2008).

Table 4.1: Correlated Random Effects - Hausman Test for ROA

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	5.551781	6	0.4752

Table 4.2: Correlated Random Effects - Hausman Test for ROE

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	8.705642	5	0.1214

Based on the above table 4.1 and table 4.2 Hausman specification test shows, the P-value for model one and two is 0.4752 and 0.1214 respectively. In both models P-value is greater than 5%. Therefore, based on the above Hausmen test results random effect model is more appropriate than fixed effect model for the both models.

4.2. Tests for Classical Linear Regression Model (CLRM) Assumptions

This section presents the test for the assumptions of classical linear regression model (CLRM): the error have zero mean, normality, autocorrelation, heteroskedasticity, and multicollinearity.

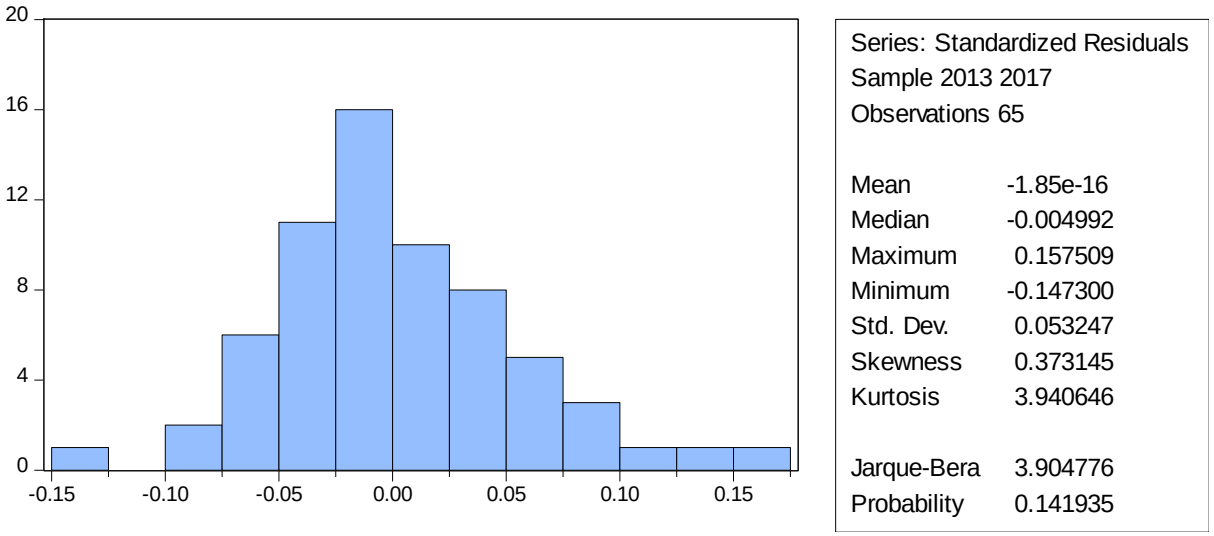
4.2.1. The Errors have Zero Mean (E (ut) = 0).

If a constant term is included in the regression equation, this assumption will never be violated. Therefore, because the regression model used in this study included a constant term, this assumption was not violated.

4.2.2. Test for Normality of Data

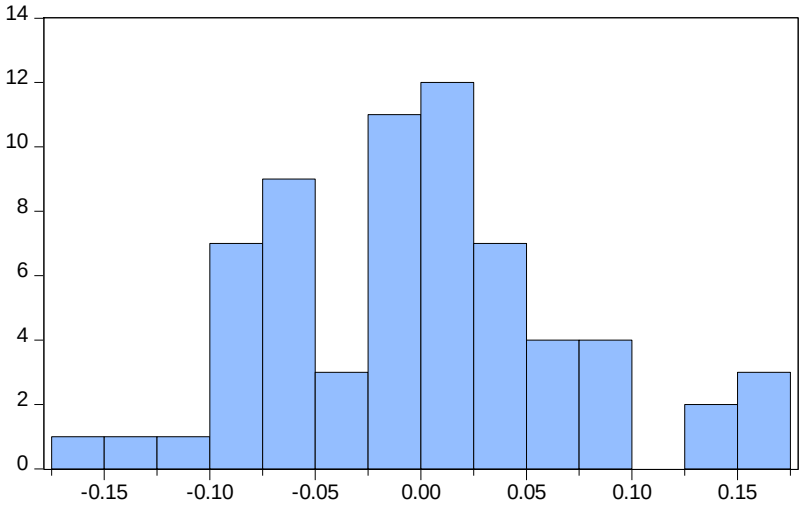
According to Brooks (2008) in order to conduct hypothesis test for the model parameters, the normality assumption must be fulfilled. The normality assumption is about the mean of the residuals is zero. Gujarati (2004) also noted that before running regression analysis, it should fulfill classic assumptions in undertaking the regression analysis and one of them is normality of data. Therefore, normality test is a major test before conducting analysis on the collected data. Therefore, the researcher used graphical methods of testing the normality of data as shown below:

Figure 4.1: Histogram-Normality test for Model One (ROA)



Source: E-views 10 output

Figure 4.2: Histogram-Normality test for Model Two (ROE)



Series: Standardized Residuals	
Sample 2013 2017	
Observations 65	
Mean	-5.26e-16
Median	-0.000978
Maximum	0.171736
Minimum	-0.154984
Std. Dev.	0.071083
Skewness	0.393272
Kurtosis	3.019883
Jarque-Bera	1.676583
Probability	0.432449

Source: E-views 10 output

Brooks (2008) stated that if the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant. That is, the p-value given at the normality test should be greater than 0.05 to not reject the null hypothesis normality. Therefore based on the above figures, p-value of Bera-Jarque test for models are 0.141935 and 0.432449 for model one and model two respectively. P-values for both models are greater than 0.05 it passed the test so the researcher fail to reject the null hypothesis for both models.

4.2.3. Test for Hetroskedasticity

Another important assumption of classical linear regression model is that the disturbance terms are homoscedastic that means the variance of the errors to be constant. If the errors do not have a constant variance, it said that the assumption of homoscedasticity has been violated. This violation is termed as Heteroskedasticity. (Brooks, 2008)

For testing of the presence of hetroskedasticity, the researcher is based on the following hypothesis.

H0: There is homoscedasticity in both models

H1: There is no homoscedasticity in both models

To test for the presence of hetroskedasticity the researcher use white test and the results obtained are as follows:

Table 4.3: Heteroskedasticity Test: White Test for Model One (ROA)

Heteroskedasticity Test: White
Null hypothesis: Homoskedasticity

F-statistic	1.432471	Prob. F(27,37)	0.1535
Obs*R-squared	33.22008	Prob. Chi-Square(27)	0.1899
Scaled explained SS	37.94916	Prob. Chi-Square(27)	0.0787

Source: Eview 10 output

Table 4.4: Heteroskedasticity Test: White Test for Model Two (ROE)

Heteroskedasticity Test: White
Null hypothesis: Homoskedasticity

F-statistic	1.311343	Prob. F(20,44)	0.2225
Obs*R-squared	24.27484	Prob. Chi-Square(20)	0.2306
Scaled explained SS	20.37562	Prob. Chi-Square(20)	0.4347

Source: Eviews 10 output

In both models as shown in table 4.3 and table 4.4, the F-statistic and Chi-Square versions of the test statistic show the same conclusion that there is no evidence for the presence of Heteroskedasticity, since the p-values were in excess of 0.05. The third version of the test statistic, scaled explained SS which is based on the explained sum of squares from the auxiliary regression, based on Brooks (2008) there is no evidence for the presence of Heteroskedasticity problem in both models, since the p-value was considerably in excess of 0.05.

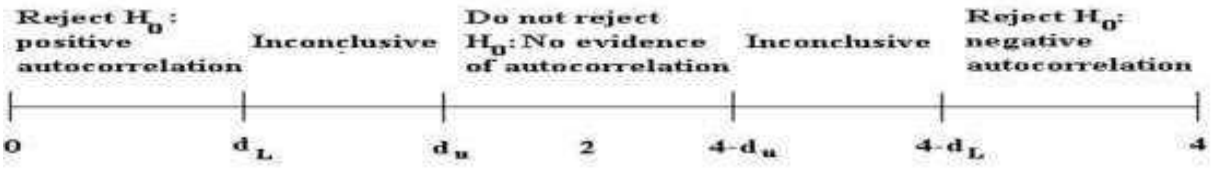
4.2.4. Test for Autocorrelation

This also an important assumption from classical linear regression assumptions, that errors are uncorrelated with one another. If the errors are correlated with one another, it would be stated that they are auto correlated. Brooks (2008) noted that the test for the existence of autocorrelation can be made by using the Durbin-Watson (DW) test and Breusch–Godfrey

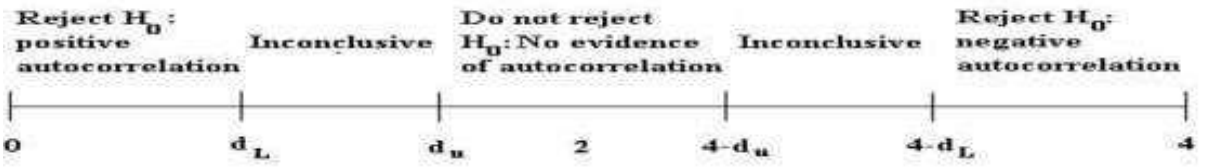
test. In some of prior researches conducted by Tufa (2016) and Liku (2017) they use only DW tests but in this study the researcher use both DW and Breusch–Godfrey test to check the presence of autocorrelations. Because DW use only a one-period lag and also there will be many forms of residual autocorrelation that DW cannot detect.

Hypotheses of this test are:
H0 = There is no autocorrelations in both models
H1 = There is autocorrelations in both models

Table 4.5: The result of DW Test



Model 1	0	1.251	1.642	4-du=2.358	4-dl=2.749	2.5929	4



Model 2	0	1.283	1.604	1.9907	4-du=2.396	4-dl=2.717	4

According to Brooks (2008), the null hypothesis is rejected and the existence of positive autocorrelation presumed if DW is less than the lower critical value, the null hypothesis is rejected and the existence of negative autocorrelation presumed if DW is greater than 4 minus the lower critical value, the null hypothesis is not rejected and no significant residual autocorrelation is presumed if DW is between the upper and 4 minus the upper limits. There is also inconclusive region that is between dL and dU and also between 4-dU and 4-dU.

The study used the dL and dU values for 65 observations with 6 explanatory variables for model one and 5 explanatory variables for model two. As presented on the above, the DW result values were 2.5929 and 1.9907 for model one and two respectively. Durbin-Watson

test value in the first model is under inconclusive region: between 2.358 and 2.749. However, in the second model Durbin-Watson test value is clearly between dU and 4-dU value which is DW value is lies in the non-rejection region.

Therefore, the Durbin Watson test in model one shows inconclusive and the absence of auto-correlation problem for model two. However, to protect the researcher from incorrect conclusion, Breusch-Godfrey test is also applied. This test is more general test for autocorrelation up to the rth order (Brooks, 2008).

Table 4.6: Breusch-Godfrey Serial Correlation LM Test for Model One (ROA)

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	1.804176	Prob. F(2,56)	0.1740
Obs*R-squared	3.934731	Prob. Chi-Square(2)	0.1398

Table 4.7: Breusch-Godfrey Serial Correlation LM Test for Model Two (ROE)

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.794544	Prob. F(2,57)	0.4567
Obs*R-squared	1.762970	Prob. Chi-Square(2)	0.4142

As can be presented in the above autocorrelation test, E-views offer F test result for model one and model two, P value of F-statistic 0.1740 and 0.4567 respectively and which is more than 5% of significance level. The conclusion from both model based on Breusch-Godfrey serial correlation LM test that, the null hypothesis of no autocorrelation is failed to reject at 5 percent level of significant. This implies that there is no significant evidence for the presence of autocorrelation in this research models. The Chi-Square P-value for both model also support the absence of autocorrelation.

Therefore, based on both tests (DW and Breusch-Godfrey test) the researcher concludes that there is no serial autocorrelation in both models.

4.2.5. Test for Multicollinearity

Multicollinerity test is used to detect whether collinearity exist among the independent variables in the model or not, because if correlation exists between independent variables, there is in the state of multicollinearity problem. In this case, the regression will end up with an inaccurate result and led to invalid conclusion.

Brooks (2008) also noted that, if it is stated that y and x are correlated, it means that y and x are being treated in completely symmetrical way. Correlation coefficient between two variables ranges from perfect positive correlation to perfect negative correlation (-1 to +1). It also defined as dependence of one variable upon another. There are two types of multicollinearity: perfect multicollinearity and near multicollinearity. Near multicollinearity is arise when there is non-negligible, but not perfect, relationship between two or more of the explanatory variables. On the other side, perfect multicollinearity occurs when there is an exact relationship between two or more variables. In this case, it is not possible to estimate all of the coefficients in the model. Therefore, the table below presents the correlations among the independent and dependent variables for both models.

Table 4.8: Correlation Matrix for Model One (ROA)

	LTD	LOG (STD)	GRO	SIZE	TAN	LOG (INF)
LTD	1					
LOG (STD)	0.15325865	1				
GRO	-0.1771379	0.15040737	1			
SIZE	0.37086241	0.19283540	-0.1245865	1		
TAN	0.39775631	-0.0861084	-0.1015276	0.46280536	1	
LOG (INF)	-0.0109066	0.01138631	-0.0617933	0.05839633	0.0724150	1

Source: Eviews 10 output

Table 4.9: Correlation Matrix for Model Two (ROE)

	LTD	GRO	LOG (SIZE)	TAN	INF
LTD	1				
GRO	-0.1771379	1			
LOG (SIZE)	0.37038517	-0.1320955	1		
TAN	0.39775631	-0.1015276	0.46046247	1	
INF	-0.0112133	-0.0666036	0.06336521	0.07251574	1

Source: Eviews 10 output,

On the above tables pearson correlation used to test the existence of multicollinearity by checking the existence of series correlation between the independent variables. The correlations between the independent variables are shown in table 4.8 and table 4.9 above. All correlation results from both models are below 0.80, which indicates that multicollinearity is not a problem for this study. As a rule of thumb, if correlation coefficient between two explanatory variables is high, it in excess of 0.80, then there is a problem of perfect multicollinearity (Gujarati, 2004).

4.3. Descriptive Statistics

This section present the descriptive statistics of dependent and independent variables used in two models. The dependent variable used in this study were ROA and ROE and the independent variables are long term debt ratio, short term debt ratio, growth, firm size, asset tangibility and inflation rate. In the table below, it shows the mean, standard deviation, maximum and minimum values for dependent and independent variables for the selected sample of Ethiopian food and beverage manufacturing companies for the year 2013-2017.

Table 4.10: Summary of Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Standard Deviation	No. of Observation
ROA	0.076884	0.051531	0.328532	-0.073798	0.090048	65
ROE	0.089793	0.054284	0.338805	-0.135504	0.119220	65
LTD	0.126444	0.083970	0.831900	0.000000	0.161409	65
LOG(STD)	-1.458055	-1.428697	-0.181830	-3.412404	0.711844	65
GRO	0.888224	0.861990	1.911061	0.120800	0.401249	65
LOG(SIZE)	2.156313	2.142688	2.286651	2.033105	0.075863	65
SIZE	8.663898	8.522317	9.841920	7.637767	0.663892	65
TAN	0.397464	0.404665	0.872608	0.015664	0.232160	65
LOG(INF)	2.137258	2.091864	2.312535	1.987874	0.140834	65
INF	8.560000	8.100000	10.10000	7.300000	1.218708	65

Source: Eviews 10 Output Data Analysis Summarize by Author

The cross-section data is based on thirteen FBMCs for five years covered 65 observations for six and five independent variables incorporated in the analysis of ROA and ROE respectively. The results show positive means for all variables except log (STD).

As it is presented in table 4.10, the mean value of financial performance was measured by return on asset (ROA) which is measured by dividing EBIT to total asset of the companies. ROA indicates that how the manager utilize the available financial and real assets to generate profits by utilizing the available assets of the firm (Aragie et al., 2015**).** The descriptive statistics in this study shows a mean value of 7.6% and median of 0.05. This result indicates that on average, for each one birr investment in the asset of food and beverage manufacturing companies there was approximately 0.08 cents return and also shows that the sample FBMCs on average earned a net profit of 7.6% of total asset. ROA also has a maximum of 0.33 and the minimum of -0.07. This indicates the most profitable food and beverage manufacturing companies (FBMCs) earns on average 0.32 cents income and the least profitable FBMCs earns on average -0.07 cents income (loss) for a single birr investment in the firm's asset. Return on equity (ROE) which is measured by dividing net income to total equity of the companies. It measures how much firms earn on their equity investment (Aragie et al., 2015). Descriptive statistics shows a mean value of 8.9 % and median of 0.05. This result indicates that on average, for each one birr investment in the equity of food and beverage manufacturing companies there was 0.09 cents return and also shows that the sample firms on average earned a net profit of 8.9 % of total equity and maximum of ROE was 0.34 and the minimum of -0.13.This indicates the most profitable food and beverage manufacturing companies (FBMCs) earns on average 0.34 cents income and the least profitable FBMCs earns on average -0.13 cents income (loss) for a single birr investment in firm's equity. In other words if the companies get loss, their capital reduce by -0.13 cents for each investment. The volatility of return on asset (ROA) and return on equity (ROE) from the mean value which measured by standard deviation and it shows 0.09 and 0.11 respectively implies that, ROA and ROE deviate from its mean by 0.09 and 0.12 in to both sides.

The researcher divide total debt in to two based on their maturity level as short and long term debt to see if there is any different effect and took them as a measure of capital structure. Long term debt ratio has a mean value of 0.13 and median of 0.08, this indicates that FBMCs financed their total assets through long term debt to the extent of 12.64% and 87.36% of the total asset is financed through short term debt and equity financing with a maximum of 0.83

and a minimum of 0.00. It also deviates from the mean by 0.16 in to both sides. The mean value of short term debt to total assets is -1.46 and a median of -1.43, with a maximum of -0.18 and a minimum of -3.41. It also deviates from the mean by 0.71 in to both sides. This result indicates that FBMCs depend on STD for financing their operation more than LTD. This result indicates that Ethiopian FBMCs are highly depending on short term debt rather than long term debt. The substantial reason for Ethiopian FBMCs firms dependence on short term debt rather than long term debt could be as a result of the absence of an established public debt market, so the only long-term source of financing available to Ethiopian FBMCs is direct borrowing from Ethiopian commercial banks, but this source is also difficult to get finance easily because of very restrictive policies and high level of debt guaranties required. As evidenced by Melese (2013) Ethiopian firms are largely depends on restricted loans of financial institutions and no other source such as raising capital from equity or debt market are available since there are no established capital markets in the country. This kind of relation also detects by other researcher on different sectors and different countries like as Abor (2005).

From control variables, growth was one of them and which represented by total sale divided by total asset was approximately 0.89. This implies that on average FBMCs total sale relative to total asset increased by 88.82% over the period covered under the study. The maximum value of growth for the study period was 1.91 and the minimum value was 0.12. Standard deviation for growth value of sale relative to asset can deviate from its mean to both sides by 40.12%.

In the first model, firm size was used as a control variable by transforming in to natural logarithm but in the second model the researcher used without logarithm. However, for this discussion the researcher used the real Birr value of total assets and to clearly understand the figures. Based on information, FBMCs have an average size of Birr 6,809,840,977.22 (8.663898) with a maximum of Birr 6,948,417,647.00 (9.841920) and a minimum of Birr 43,427,670.12 (7.637767) which shows a greater variation between companies reaching to Birr 6,904,989,977 and a standard deviation of 0.66 also indicates this variations. The maximum asset size is from beverage manufacturing company on 2017 and the minimum one is from food manufacturing company on 2013. The maximum and the minimum value from these result from both models indicates that there is a variation in term of size between sampled firms.

The mean value of firms asset tangibility calculated by book value of fixed asset divided by total assets has a mean value of approximately 0.39 and a median of 0.40, with a minimum and a maximum value of 0.01 and 0.87 respectively. In addition the standard deviation of the TAN for FBMC shows a deviation from the mean by 0.23 in to both sides. This result indicates that out of the total assets owned by FBMCs 39.74% is categorized as fixed assets and there is about 10% difference even to maintain an equilibrium between fixed and current assets. This means that FBMCs either own a low proportion of fixed assets or they keep a high degree of cash, accounts receivable, inventory and other liquid assets in other word the proportion of current assets on food and beverage manufacturing companies is so large**.**

Inflation is also used as a control variable and it was transform to natural logarithm in the first model. In the descriptive statistic its mean were 2.13 and median of 2.09 with a maximum of 2.31 and a minimum of 1.99 and its standard deviation 0.14 which represent that, its deviation from the mean by 14.08% in to both sides. On the other side, inflation is also used as a control variable in the second model also but without logarithm and has a mean value of 8.56 and median of 8.1 with a maximum of 10.1 and a minimum of 7.3. These result indicates that average inflation rate in Ethiopian economy during the five years (2013-2017) observation was on average 8.56 per annum whereas it deviate from the mean by 1.22 in to both sides.

4.4. Results of the Regression Analysis

Figure 4.3 below shows that the result of multiple regression analysis based on random effect model for both models and found that R-squared is 56% and 59.9% and adjusted R-squared value of 51.4% and 56.5% for model one and model two respectively. The value of adjusted R-squared shows that there is a relationship between ROA and listed independent variables, because all independent variables can explain return on asset about 51% in the first model. While the remaining 49% explained by other factors which are not included in the regression. Both R-squared and adjusted R-squared values in this study are found to be higher in the second model than the first model. In the second model ROE explain by independent variable around by 56% and 44% will be explained by other variables those are not included in this model but still it indicates that there is a relationship between independent variables and the

dependent variable which makes further interpretations and hypothesis tests valid on both models.

Figure 4.3: Model One - Relationship between Capital Structure and Financial Performance (ROA)

Dependent Variable: ROA
Method: Panel EGLS (Cross-section random effects)
Date: 09/28/18 Time: 21:33
Sample: 2013 2017
Periods included: 5
Cross-sections included: 13
Total panel (balanced) observations: 65
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.538237	0.172545	-3.119407	0.0028
LTD	-0.175955	0.055657	-3.161389	0.0025
LOG(STD)	0.004054	0.011576	0.350181	0.7275
GRO	0.140746	0.021568	6.525572	0.0000
SIZE	0.057904	0.016521	3.504894	0.0009
TAN	-0.079552	0.043191	-1.841879	0.0706
LOG(INF)	0.022559	0.045056	0.500679	0.6185

Effects Specification		
	S.D.	Rho
Cross-section random	0.026737	0.2211
Idiosyncratic random	0.050179	0.7789

Weighted Statistics			
R-squared	0.560027	Mean dependent var	0.049427
Adjusted R-squared	0.514513	S.D. dependent var	0.072358
S.E. of regression	0.050417	Sum squared resid	0.147428
F-statistic	12.30438	Durbin-Watson stat	2.592983
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.650344	Mean dependent var	0.076884
Sum squared resid	0.181456	Durbin-Watson stat	2.106720

Figure 4.4: Model Two Relationship between Capital Structure and Financial Performance (ROE)

Dependent Variable: ROE
Method: Panel EGLS (Cross-section random effects)
Date: 09/28/18 Time: 21:35
Sample: 2013 2017
Periods included: 5
Cross-sections included: 13
Total panel (balanced) observations: 65
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.864446	0.319745	-5.831033	0.0000
LTD	-0.154205	0.065922	-2.339197	0.0227
GRO	0.186937	0.024161	7.737037	0.0000
LOG(SIZE)	0.873072	0.149346	5.845963	0.0000
TAN	-0.101370	0.048237	-2.101506	0.0399
INF	-0.004046	0.007183	-0.563203	0.5754

Effects Specification	S.D.	Rho
Cross-section random	0.017099	0.0571
Idiosyncratic random	0.069473	0.9429

Weighted Statistics			
R-squared	0.599094	Mean dependent var	0.078667
Adjusted R-squared	0.565119	S.D. dependent var	0.109470
S.E. of regression	0.072190	Sum squared resid	0.307475
F-statistic	17.63334	Durbin-Watson stat	1.990796
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.644509	Mean dependent var	0.089793
Sum squared resid	0.323376	Durbin-Watson stat	1.892903

In the figure 4.3 the researcher tries to show the relationship between different capital structure variables and return on asset (ROA). Subsequently, in the above figure 4.4 the researcher presented the regression output from the relationship between capital structure variable and return on equity (ROE) which is another measure of financial performance of FBMCs.

To do all classical regression assumptions are meet and to improve the fitness of the model short term debt, firm size and inflation are transformed to log. The regression result in model one by using random effect regression model shows coefficient intercept / C / is

approximately -0.54. This means, when all explanatory variables took a value of zero, the average value of ROA would be taking a value of -0.54 and statistically significant at 1% level of significance. The regression result in model two by using random effect regression model shows a coefficient intercept / C / is approximately -1.86. This means, when all explanatory variables took a value of zero, the average value of ROE would be taking a value of -1.86 and statistically significant at 1% level of significance.

In the first model, the researcher use ROA as a dependent variable and long term debt , log of short term debt to total debt, growth, size, asset tangibility and log of inflation as independent variables. Among these listed independent variables long term debt and asset tangibility has a negative effect on ROA and statistically significant at 1% and 10% respectively, growth and size has a positive effect and statistically significant at 1% each. Logarithm of short term debt and logarithm of inflation has a positive effect on ROA but they are not statistically significant to make an effect on ROA of food and beverage manufacturing companies operated in Ethiopia even at 5%. On the other side, in the second model, the researcher use ROE as a dependent variables and long term debt ratio, growth, log of size, asset tangibility and inflation as independent variables. Among these listed independent variables: long term debt and asset tangibility has a negative effect on ROE and statistically significant at 5%, growth and log of size has a positive effect on ROE and statistically significant at 1%. The only variable which had insignificant effect on ROE is inflation, it shows a negative relation with ROE but statistically insignificant even at 5%. In the following section demonstrates the effect of different capital structure variables on the financial performance variables which measured by ROA and ROE.

A. Long Term Debt Ratio (LTD) and Financial Performance Measures

In the first model, the result of random effect regression model shows a coefficient of LTD is -0.17 with a p – value of 0.0025. This indicates that, holding other independent variables constant when long term debt increased by one unit, return on asset (ROA) would be decreased by -0.17 units and statistically significant at 1% level of significance. Additionally, in the second model the result of random effect regression model shows a coefficient of LTD is -0.15 with a p – value of 0.0227. This indicates that, holding other independent variables constant, when long term debt increased by one unit, return on equity (ROE) would be

decreased by -0.15 units and statistically significant at 5% level of significance. From both models, long term debt ratio has a significant and negative effect on the financial performance of FBMCs. This means as long term debt increase, the financial performance of FBMCs would decrease. So it implies that, most profitable FBMCs were those maintaining a low proportion of long term debt in their capital structure. This may because of due to the banks high lending interest rate engaged in the long term debt in Ethiopia, in addition to this an increase in the level of long term debt also increases the riskiness of companies as evidenced by Kifle (2016). This might be resulted from due to the absence of a secondary bond market. As Kannan & Ejigu (2013) discussed that securities market contribute to economic growth by mobilizing saving and channeling it to productive investment. Ethiopia, though having growing markets for primary issues of equity and debt securities, does not have a secondary market. The Government and even local authorities may decide to borrow money in order to finance huge infrastructure projects by selling another category of securities known as bonds but this is not easy for private companies. Therefore, Ethiopian FBMCs are dependent on financing from banks long term loan. As researcher understands from Iavorskyi (2013) developing countries have high growth potential. Debt financing in such conditions makes a firm to commit future fixed payments and thus deters investing in immediately available projects with higher returns rates and this high real interest rates jeopardize future financial stability of the firm. Therefore FBMCs should take care and analysis the profitability before investing on the new project in case of debt financing.

The finding consistent with previous study conducted in Ethiopia with Kifle (2016) found that a significant negative relationship between long term debt and financial performance of Cement companies, when capital structure and financial performance is measured by long term debt to equity ratio and return on equity respectively. There are many studies conducted on this topic in Ethiopia but most of them are conducted on nonfinancial sector and also from studies related to manufacturing sector most of them do not use long term debt. So, the researcher found a difficultly to relate this finding. However, there are two researches as far as the knowledge of the researcher conducted by Melese (2013) and Tufa (2016) those use long term debt as an explanatory variable but found different result. When the researcher relate this negative relation with foreign countries empirical work; Abor (2005) found significantly negative association between long term debt and profitability of firms on the Ghana Stock Exchange (GSE) during a five-year period (1998-2002) and also Ghanaian firms are less dependent on long term debt, Madah et al., (2013) also found a negative relationship

between long term debt and financial performance of nonfinancial firms listed in Karachi Stock Exchange (KSE) in Pakistan and suggested that if the value of LTD decrease then firms will increase their profitability, Bhattarai (2016) found a negative relation of long term debt with financial performance of Nepalese manufacturing companies, Ebaid, (2009) also found a negative but no significant relationship founded between long-term debt (LTD) and financial performance of firms operated in Egypt. These similar finding may be resulted from the studies conducted on developing countries and their lending system is more or less expensive for long term debt. Whereas there are studies contradicted to the above finding: Githire & Muturi (2015) found a positive and significant effect of long term debt on financial performance of firms listed at the Nairobi Securities Exchange, Melese (2013) found insignificant positive effect of long term debt on financial performance of Ethiopia's metal and engineering industry companies. Tufa (2016) also use long term debt to capitalization ratio as one of capital structure variable and found that significant positive relationship with profits of manufacturing companies operated in Ethiopia. These contradiction may result from their case study is operated in different industry rather than Ethiopia food and beverage industry. Thus, the hypothesis one, stating that long term debt ratio has a significant and positive effect on financial performance of FBMCs is rejected. This inconsistency from listed previous finding might resulted from different in sector, samples and variables included in the studies.

B. Short Term Debt Ratio (STD) and Financial Performance Measures

In the first model, the result of random effect regression model a coefficient of log (STD) is 0.004 with a p – value of 0.7275. This indicates that, holding other independent variables constant, when short term debt increased by 1%, simultaneously return on asset (ROA) of food and beverage manufacturing companies would be increased by 0.004 units but statistically insignificant even at 5% level of significance, meaning that short term debt doesn't have a significant effect on firms financial performance of FBMCs. This insignificant effect of short term debt with financial performance might be resulted from there is insignificant advantage from tax shield, as evidence by Mekonnen (2011) tax shield has insignificant effect on short term debt ratio and capital structure in Addis Ababa manufacturing share companies. This also consistent with Kirmi (2017) the research were evidenced from Energy and Petroleum Companies listed in Nairobi Securities Exchange and

found that short-term debt to total assets established a positive insignificant effect of Short-term debt to ROA at 5% level of significance. Ramadhan & Trenggana (2014) also try to study the effect of debt on the profitability in telecommunication based Cdma in Indonesia and the finding were supported that short-term debt to have a positive but not significant effect on ROE.

Positive relation between short term debt and financial performance is consistent with previous study conducted in Ethiopia. Tufa (2016) found that significant positive relationship between short term debt and profits of manufacturing companies operated in Ethiopia. Melese (2013) also found a significant positive effect of short term debt on financial performance of Ethiopia's metal and engineering industry companies. From foreign country studies the finding of Abor (2005) found a significantly positive relationship between short term debt and profitability of listed firms on the Ghana Stock Exchange (GSE) during a five-year period (1998-2002) and also Ghanaian firms are largely depend on short-term debt for financing their operations due to the difficulty in accessing long-term credit from financial institutions. These similar finding may be resulted from the studies are conducted on developing countries. On the other side there are studies contradicted to this finding, Githire & Muturi (2015) found short term debt has a negative and significant effect on financial performance of firms listed at the Nairobi Securities Exchange, Madah et al., (2013) also found a negative relationship between short term debt and financial performance of nonfinancial firms listed in Karachi Stock Exchange (KSE) in Pakistan, Bhattarai (2016) found a negative relation between short term debt and financial performance of Nepalese manufacturing companies, Ebaid, (2009) also found a negative and statistically significant relation and suggests that an increase in STD associated with decrease in ROA of firms operated in Egypt. Vătavu (2015) also found a negative relationship between short term debt and financial performance of Romanian listed companies. The difference of this study result with studies listed above might be from difference in selected sectors, country specific factors, variables and samples selected. Therefore, the hypothesis two, stating that short term debt ratio has a significant and positive effect on financial performance of FBMCs is rejected.

C. Growth and Financial Performance Measures

The results of random regression analysis for both models in figure 4.3 and 4.4 shows there is a positive relationship between growth and financial performance. Hence, in the first model when ROA were used as a measure of financial performance, a coefficient of growth (GRO) is 0.14 with a P-value is 0.0000 this implies that, holding other independent variables constant at their average value, when growth (GRO) increased by one unit, return on asset (ROA) would be increased by 0.14 units and statistically significant at 1 % level of significance. Additionally, in the second model ROE were used as a measure of financial performance, a coefficient of growth is 0.19 with a P-value is 0.0000 this implies that, holding other independent variables constant at their average value, when growth (GRO) increased by one unit, return on equity (ROE) would be increased by 0.19 units and statistically significant at 1 % level of significance. This finding shows having more sales with respect to asset over the years have also better chance to increase financial performance as a result of companies cash inflow increase, firms easily take investment opportunities . This finding was consistent with previous empirical literatures conducted by Kifle (2016), Tufa (2016), Hailu (2015), Maina & Ishmail, (2014), Le & Phan (2017), Bhattarai, (2016) and Abor (2005), Coban (2014) and House & Benefield (1995). Thus, the researcher fail to reject hypothesis three, stating that growth has a significant and positive effect on financial performance of FBMCs.

D. Size and Financial Performance Measures

From random effect regression model in the figure 4.3 in the model one a coefficient of size is 0.06 with p-value of 0.0009. This indicate that, holding other independent variables constant at their average value, when food and beverage manufacturing companies size increased by one unit, return on asset (ROA) would be increased by 0.06 units and statistically significant at 1% level of significance. In the second model on the figure 4.4, coefficient of log (size) is 0.87 with p-value of 0.0000. This indicate that, holding other independent variables constant at their average value, when food and beverage manufacturing companies size increased by 1%, return on equity (ROE) would be increased by 0.87 units and statistically significant at 1 % level of significance. From both models, the researcher concludes that firm size is positively related to FBMCs financial performance, meaning that

larger FBMCs have better performance. The positive coefficient of company size may the result of that large size food and beverage manufacturing companies can earn higher returns compared to smaller firms, as a result of diversification of investment and economies of scale. Zeitun & Tian (2007) also come out with the result that firm size has a positive effect on a firm's financial performance and also large firms have low bankruptcy costs. Generally, finding from this study with respect to firm size is consistent with previous literatures done by Abor (2005), Tufa (2016), Madah et al., (2013), Kifle (2016), Muritala (2012), Aragie et al., (2015)**,** Gebrehiwotl (2016)and Bhattarai (2016). Thus, the researcher fail to reject hypothesis four, stating that firm size has a significant and positive effect on financial performance of FBMCs.

E. Asset Tangibility and Financial Performance Measures

From both regression analysis shows in figure 4.3 and 4.4 there is a negative relationship between asset tangibility (TAN) and financial performance of food and beverage manufacturing companies. Hence, in the first model coefficient of (TAN) is -0.08 with a p-value of 0.0706. This indicate that, holding other independent variables constant at their average value, when asset tangibility of FBMCs increased by one unit, return on asset would be decreased by -0.08 units and this is statistically significant at 10% level of significance. From the second model also asset tangibility has a coefficient of approximately -0.10 with p-value of 0.0399 this indicate that, holding other independent variables constant at their average value, when asset tangibility of FBMCs increased by one unit, return on equity (ROE) would be decreased by -0.10 units and this is statistically significant at 5% level of significance. The finding implies that FBMCs were not able to utilize the fixed asset to make a positive effect on their financial performance the reason might be either they do not use their assets effectively or they do not have access to undertake profitable investments. This result is consistent with Birru (2016), Vătavu (2015), Tufa (2016), Maina & Ishmail, (2014), Muritala (2012) and Bhattarai (2016). Thus, the researcher reject hypothesis five, stating that asset tangibility has a significant and positive effect on financial performance of FBMCs.

F. Annual Inflation Rate (INF) and Financial Performance Measures

The result from model one shows that, there is insignificant positive relationship between inflation rate and financial performance which is measured by ROA. Random effect regression shows a coefficient of log (INF) is 0.02 with p-value of 0.6185. This indicate that, holding other independent variables constant at their average value, when Ethiopian inflation rate increased by 1%, ROA would be increased by 0.02 units but statistically insignificant even at 5% level of significance. Additionally, in the second model also there is insignificant negative relationship between inflation rate and financial performance which is measured by ROE. Random effect regression shows a coefficient of INF is -0.004 with p-value of 0.5754. This indicate that, holding other independent variables constant at their average value, when Ethiopian inflation rate increased by one unit, ROE would be decreased by -0.004 units but statistically insignificant even at 5% level of significance. Since, from both model no statistically significant linear dependence was detected, this result implies that inflation rate has no significant effect on financial performance of Ethiopian food and beverage manufacturing companies. This insignificant effect might resulted from National Bank of Ethiopia (NBE) give responsibility to all banks to set lending interest rate on loan and advances freely by their board of directors but it shall set in writing according to directive NBE/INT/11/2010. The researcher refer this directives because the study period covered on this study was ruled by this directives except year of 2017. However, NBE updated this directives about minimum interest rate on saving and time deposits, after devaluation of birr on 2017 by directive of NBE/INT/12/2017 but there is no change on lending interest rate directives, this means still lending interest rate decided by board of directors of each banks and submit it to NBE by describing criteria's which they are based and subsequent changes within five working days. Therefore this led to different interest rate from one bank to another bank because it decided by considering many factors additional to annual inflation rate. So, the effect of annual inflation rate on the financial performance of FBMCs is insignificant.

Therefore, the researcher reject hypothesis six, stating that inflation has a significant and negative effect on financial performance of FBMCs.

Table 4.11: Relationship between expected sign and actual sign of hypothesis decision and discussion of results

H	Statement of Hypothesis	Independent Variables Expected Sign		Independent Variables Actual Sign	
		ROA	ROE	ROA	ROE
1	Relation between LTD and financial performance	+	+	- (Significant)	- (Significant)
2	Relation between STD and financial performance	+		Insignificant	
5	Relation between GRO and financial performance	+	+	+ (Significant)	+ (Significant)
6	Relation between TAN and financial performance	+	+	- (Significant)	- (Significant)
7	Relation between INF and financial performance	-	-	Insignificant	Insignificant
8	Relation between SIZE and financial performance	+	+	+ (Significant)	+ (Significant)

Chapter Five – Conclusions and Recommendations

5.1. Conclusion

This chapter is final chapter for this thesis and it provide summary of findings presented in chapter four, conclusions, recommendations and some limitation of the study.

Capital structure has been a much debated topic in the finance field since the Modigliani & Miller proposition in 1958. Capital structure decision has been the most significant decisions to be taken by any business organization for sustainable growth. Since, capital structure decision is believed to play an important role in maximizing the value of a firm by having the most optimal capital structure.

In this study, the researcher use return on asset and return on equity as a measure of financial performance, long term debt and short term debt used as a capital structure variable and growth, firm size, asset tangibility and inflation also used as a control variable. The quantitative data were collected from the annual financial statement of thirteen Ethiopian food and beverage manufacturing companies for the period covered 2013-2018. The collected data were analyzed by employing panel least square regression analysis model using statistical package Eviews 10.

From the regression analysis, adjusted value of R square 0.51 for model one shows that return on assets (ROA) is about 51.45% based on independent variable long term debt (LTD), short term debt (STD) and control variables (growth, firm size, asset tangibility and inflation rate). This means ROA explained by these independent and control variables by 51.45% and the remaining 48.55% of the model is explained by other factors which are not included in the regression. Additionally, in model two financial performance were measured by return on equity (ROE) and the value of adjusted R square were 0.56 means it explained by independent variable long term debt (LTD) and control variables (growth, firm size, asset tangibility and inflation rate) around 56.51% and the remaining 43.49% of the model is explained by other factors which are not included in the regression.

The results of the study shows that capital structure variable which is measured by long term debt (LTD) had a significant negative effect on firm performance of food and beverage manufacturing companies which is measured by ROA and ROE. Means when FBMCs increase long term debt, their financial performance would decrease. So it implies that, most profitable FBMCs were those maintaining a low proportion of long term debt in their capital structure. This may resulted due to banks high lending interest rate engaged in the long term debt in Ethiopia, an increase in the level of long term debt also increases the riskiness of companies and also from the absence of a secondary bond market, the result also consistent with some of previous empirical studies conducted in Ethiopia.

Short term debt had statistically insignificant positive relationship with financial performance of FBMCs. This positive relation is consistent with prior studies: Tufa (2016), Melese (2013) Abor (2005). On the other hand, the effect of control variables: firm size and growth had statistically significant positive relationship with financial performance of FBMCs, which is consistent with previously developed hypothesis and prior empirical evidences conducted in Ethiopia. From the remaining control variables, asset tangibility had a significant negative effect on financial performance pf FBMCs and inconsistent with previous developed hypothesis, inflation also used as a macroeconomic control variable had insignificant negative effect on the financial performance of food and beverage manufacturing companies operated in Ethiopia.

Generally, the result from the study support significant negative effect of capital structure on the financial performance of Ethiopian food and beverage manufacturing companies. However, the result also inconsistent with some other studies conducted in Ethiopia and found positive relation as discussed above. This might be resulted from variation in the nature of the business itself as well as different factors that might influence capital structure can be from external and internal of the company. The external factors are the macroeconomic condition of the country, inflation rate, tax rate, whereas the internal factors are the firm's size, growth, asset tangibility, management behaviors, and so on.

5.2. Recommendations

Based on the above results the researcher suggest the following recommendation,

For Financial Managers Food and Beverage Manufacturing Companies

- As shown from the regression result, it proves that increase in long term debt negatively affects the financial performance of Ethiopian FBMCs. Since it support internal financing rather than external long term debt and equity finance options. Therefore, this research recommend financial managers of FBMCs shall not use excessive amount of debt in their capital structure, they must try to finance their projects with retained earnings first and take long term debt and new equity as a last option.
- Financial managers of food and beverage manufacturing companies (FBMCs) also should consider effect of significant variables (long term debt, size, growth and asset tangibility) before deciding amount of debt and equity on their capital structure. By reviewing their level of long term debt their firm size and their future growth potential and amount of fixed asset that used to as a guarantee to get loan from banks.

For Future Researchers

- Based on the best the researcher knowledge, no study in Ethiopia conducted on the effect of capital structure on financial performance of food and beverage manufacturing companies. So, the researcher recommend for future researchers to work on this sector more by considering additional explanatory and dependent variables: including internal variables such as equity to asset ratio and debt to equity ratio as well as more external variable like GDP as a control variable, which might provide a strong relationship and help to discover new and better finding in the effect of capital structure on financial performance.
- The relationship between maturity of debt and financial performance also need to study in detail because there is a different finding between long term debt and short term debt in previous studies conducted by Abor (2005) found a significantly positive

relationship between short term debt and profitability and positive re relationship between long term debt and profitability and this research result also shown different relationship.

- If active secondary market establish in Ethiopia in the future, the researcher suggest to future researcher to consider market value measures of financial performance rather than book value measurement.

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Appendixes

Appendix – 1 List of Samples Selected

1. Faffa Food Complex Share Company
2. Kaliti Food Complex Share Company
3. Ada Food Complex Factory Share Company
4. Awash Wine Share Company
5. Heineken Breweries Share Company
6. East Africa Bottling Share Company
7. Ambo Mineral Share Company
8. Moha Soft Drinks Industry Share Company
9. Great Abyssinia PLC
10. BGI-Ethiopia PLC
11. Shoa Bakery and Flour Factory PLC
12. Misrak Flour and Bread Factory
13. D.H. Geda Flour Factory PLC

Appendix – 2 Descriptive Statistics for Model One

	ROA	C	LTD	LOG(STD)	GRO	SIZE	TAN	LOG(INF)
Mean	0.076884	1.000000	0.126444	-1.458055	0.888224	8.663898	0.397464	2.137258
Median	0.051531	1.000000	0.083970	-1.428697	0.861990	8.522317	0.404665	2.091864
Maximum	0.328532	1.000000	0.831900	-0.181830	1.911061	9.841920	0.872608	2.312535
Minimum	-0.073798	1.000000	0.000000	-3.412404	0.120800	7.637767	0.015664	1.987874
Std. Dev.	0.090048	0.000000	0.161409	0.711844	0.401249	0.663892	0.232160	0.140834
Skewness	0.614435	NA	2.166540	-0.642249	0.367782	0.369150	0.155820	0.234406
Kurtosis	2.621194	NA	8.146483	3.359355	2.625102	1.881551	1.823921	1.241433
Jarque-Bera	4.478539	NA	122.5842	4.818312	1.846010	4.864205	4.009092	8.970928
Probability	0.106536	NA	0.000000	0.089891	0.397323	0.087852	0.134721	0.011272
Sum	4.997465	65.00000	8.218866	-94.77355	57.73456	563.1533	25.83518	138.9218
Sum Sq. Dev.	0.518956	0.000000	1.667390	32.43022	10.30406	28.20816	3.449478	1.269382
Observations	65	65	65	65	65	65	65	65

Appendix – 3 Pearson correlation Matrix for Model One

	ROA	C	LTD	LOG(STD)	GRO	SIZE	TAN	LOG(INF)
ROA	1		-0.3203487...	0.19171817...	0.70501030...	0.13721011...	-0.1482413...	0.01040946...
C								
LTD	-0.3203487...		1	0.15325865...	-0.1771379...	0.37086241...	0.39775631...	-0.0109066...
LOG(STD)	0.19171817...		0.15325865...	1	0.15040737...	0.19283540...	-0.0861084...	0.01138631...
GRO	0.70501030...		-0.1771379...	0.15040737...	1	-0.1245865...	-0.1015276...	-0.0617933...
SIZE	0.13721011...		0.37086241...	0.19283540...	-0.1245865...	1	0.46280536...	0.05839633...
TAN	-0.1482413...		0.39775631...	-0.0861084...	-0.1015276...	0.46280536...	1	0.07241509...
LOG(INF)	0.01040946...		-0.0109066...	0.01138631...	-0.0617933...	0.05839633...	0.07241509...	1

Appendix – 4 Descriptive Statistics for Model Two

	ROE	C	LTD	GRO	LOG(SIZE)	TAN	INF
Mean	0.089793	1.000000	0.126444	0.888224	2.156313	0.397464	8.560000
Median	0.054284	1.000000	0.083970	0.861990	2.142688	0.404665	8.100000
Maximum	0.338805	1.000000	0.831900	1.911061	2.286651	0.872608	10.10000
Minimum	-0.135504	1.000000	0.000000	0.120800	2.033105	0.015664	7.300000
Std. Dev.	0.119220	0.000000	0.161409	0.401249	0.075863	0.232160	1.218708
Skewness	0.263549	NA	2.166540	0.367782	0.282069	0.155820	0.271393
Kurtosis	2.219413	NA	8.146483	2.625102	1.870578	1.823921	1.236741
Jarque-Bera	2.402696	NA	122.5842	1.846010	4.316665	4.009092	9.218354
Probability	0.300788	NA	0.000000	0.397323	0.115518	0.134721	0.009960
Sum	5.836569	65.00000	8.218866	57.73456	140.1603	25.83518	556.4000
Sum Sq. Dev.	0.909660	0.000000	1.667390	10.30406	0.368337	3.449478	95.05600
Observations	65	65	65	65	65	65	65

Appendix – 5 Pearson correlation Matrix for Model Two

	ROE	C	LTD	GRO	LOG(SIZE)	TAN	INF
ROE	1		-0.2040886...	0.64031814...	0.29664072...	-0.0875764...	-0.0600299...
C							
LTD	-0.2040886...		1	-0.1771379...	0.37038517...	0.39775631...	-0.0112133...
GRO	0.64031814...		-0.1771379...	1	-0.1320955...	-0.1015276...	-0.0666036...
LOG(SIZE)	0.29664072...		0.37038517...	-0.1320955...	1	0.46046247...	0.06336521...
TAN	-0.0875764...		0.39775631...	-0.1015276...	0.46046247...	1	0.07251574...
INF	-0.0600299...		-0.0112133...	-0.0666036...	0.06336521...	0.07251574...	1

Appendix – 6 Durbin-Watson Statistic: 1 Per Cent Significance Points of dL and dU

	k'*=1		k'=2		k'=3		k'=4		k'=5		k'=6		k'=7		k'=8		k'=9		k'=10	
n	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU
6	0.390	1.142	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	0.435	1.036	0.294	1.676	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	0.497	1.003	0.345	1.489	0.229	2.102	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	0.554	0.998	0.408	1.389	0.279	1.875	0.183	2.433	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	0.604	1.001	0.466	1.333	0.340	1.733	0.230	2.193	0.150	2.690	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	0.653	1.010	0.519	1.297	0.396	1.640	0.286	2.030	0.193	2.453	0.124	2.892	-----	-----	-----	-----	-----	-----	-----	-----
12	0.697	1.023	0.569	1.274	0.449	1.575	0.339	1.913	0.244	2.280	0.164	2.665	0.105	3.053	-----	-----	-----	-----	-----	-----
13	0.738	1.038	0.616	1.261	0.499	1.526	0.391	1.826	0.294	2.150	0.211	2.490	0.140	2.838	0.090	3.182	-----	-----	-----	-----
14	0.776	1.054	0.660	1.254	0.547	1.490	0.441	1.757	0.343	2.049	0.257	2.354	0.183	2.667	0.122	2.981	0.078	3.287	-----	--
15	0.811	1.070	0.700	1.252	0.591	1.465	0.487	1.705	0.390	1.967	0.303	2.244	0.226	2.530	0.161	2.817	0.107	3.101	0.068	3.374
16	0.844	1.086	0.738	1.253	0.633	1.447	0.532	1.664	0.437	1.901	0.349	2.153	0.269	2.416	0.200	2.681	0.142	2.944	0.094	3.201
17	0.873	1.102	0.773	1.255	0.672	1.432	0.574	1.631	0.481	1.847	0.393	2.078	0.313	2.319	0.241	2.566	0.179	2.811	0.127	3.053
18	0.902	1.118	0.805	1.259	0.708	1.422	0.614	1.604	0.522	1.803	0.435	2.015	0.355	2.238	0.282	2.467	0.216	2.697	0.160	2.925
19	0.928	1.133	0.835	1.264	0.742	1.416	0.650	1.583	0.561	1.767	0.476	1.963	0.396	2.169	0.322	2.381	0.255	2.597	0.196	2.813
20	0.952	1.147	0.862	1.270	0.774	1.410	0.684	1.567	0.598	1.736	0.515	1.918	0.436	2.110	0.362	2.308	0.294	2.510	0.232	2.174
21	0.975	1.161	0.889	1.276	0.803	1.408	0.718	1.554	0.634	1.712	0.552	1.881	0.474	2.059	0.400	2.244	0.331	2.434	0.268	2.625
22	0.997	1.174	0.915	1.284	0.832	1.407	0.748	1.543	0.666	1.691	0.587	1.849	0.510	2.015	0.437	2.188	0.368	2.367	0.304	2.548
23	1.017	1.186	0.938	1.290	0.858	1.407	0.777	1.535	0.699	1.674	0.620	1.821	0.545	1.977	0.473	2.140	0.404	2.308	0.340	2.479
24	1.037	1.199	0.959	1.298	0.881	1.407	0.805	1.527	0.728	1.659	0.652	1.797	0.578	1.944	0.507	2.097	0.439	2.255	0.375	2.417
25	1.055	1.210	0.981	1.305	0.906	1.408	0.832	1.521	0.756	1.645	0.682	1.776	0.610	1.915	0.540	2.059	0.473	2.209	0.409	2.362
26	1.072	1.222	1.000	1.311	0.928	1.410	0.855	1.517	0.782	1.635	0.711	1.759	0.640	1.889	0.572	2.026	0.505	2.168	0.441	2.313
27	1.088	1.232	1.019	1.318	0.948	1.413	0.878	1.514	0.808	1.625	0.738	1.743	0.669	1.867	0.602	1.997	0.536	2.131	0.473	2.269
28	1.104	1.244	1.036	1.325	0.969	1.414	0.901	1.512	0.832	1.618	0.764	1.729	0.696	1.847	0.630	1.970	0.566	2.098	0.504	2.229
29	1.119	1.254	1.053	1.332	0.988	1.418	0.921	1.511	0.855	1.611	0.788	1.718	0.723	1.830	0.658	1.947	0.595	2.068	0.533	2.193
30	1.134	1.264	1.070	1.339	1.006	1.421	0.941	1.510	0.877	1.606	0.812	1.707	0.748	1.814	0.684	1.925	0.622	2.041	0.562	2.160
31	1.147	1.274	1.085	1.345	1.022	1.425	0.960	1.509	0.897	1.601	0.834	1.698	0.772	1.800	0.710	1.906	0.649	2.017	0.589	2.131
32	1.160	1.283	1.100	1.351	1.039	1.428	0.978	1.509	0.917	1.597	0.856	1.690	0.794	1.788	0.734	1.889	0.674	1.995	0.615	2.104
33	1.171	1.291	1.114	1.358	1.055	1.432	0.995	1.510	0.935	1.594	0.876	1.683	0.816	1.776	0.757	1.874	0.698	1.975	0.641	2.080
34	1.184	1.298	1.128	1.364	1.070	1.436	1.012	1.511	0.954	1.591	0.896	1.677	0.837	1.766	0.779	1.860	0.722	1.957	0.665	2.057
35	1.195	1.307	1.141	1.370	1.085	1.439	1.028	1.512	0.971	1.589	0.914	1.671	0.857	1.757	0.800	1.847	0.744	1.940	0.689	2.037
36	1.205	1.315	1.153	1.376	1.098	1.442	1.043	1.513	0.987	1.587	0.932	1.666	0.877	1.749	0.821	1.836	0.766	1.925	0.711	2.018
37	1.217	1.322	1.164	1.383	1.112	1.446	1.058	1.514	1.004	1.585	0.950	1.662	0.895	1.742	0.841	1.825	0.787	1.911	0.733	2.001
38	1.227	1.330	1.176	1.388	1.124	1.449	1.072	1.515	1.019	1.584	0.966	1.658	0.913	1.735	0.860	1.816	0.807	1.899	0.754	1.985
39	1.237	1.337	1.187	1.392	1.137	1.452	1.085	1.517	1.033	1.583	0.982	1.655	0.930	1.729	0.878	1.807	0.826	1.887	0.774	1.970
40	1.246	1.344	1.197	1.398	1.149	1.456	1.098	1.518	1.047	1.583	0.997	1.652	0.946	1.724	0.895	1.799	0.844	1.876	0.749	1.956
45	1.288	1.376	1.245	1.424	1.201	1.474	1.156	1.528	1.111	1.583	1.065	1.643	1.019	1.704	0.974	1.768	0.927	1.834	0.881	1.902
50	1.324	1.403	1.285	1.445	1.245	1.491	1.206	1.537	1.164	1.587	1.123	1.639	1.081	1.692	1.039	1.748	0.997	1.805	0.955	1.864
55	1.356	1.428	1.320	1.466	1.284	1.505	1.246	1.548	1.209	1.592	1.172	1.638	1.134	1.685	1.095	1.734	1.057	1.785	1.018	1.837
60	1.382	1.449	1.351	1.484	1.317	1.520	1.283	1.559	1.248	1.598	1.214	1.639	1.179	1.682	1.144	1.726	1.108	1.771	1.072	1.817
65	1.407	1.467	1.377	1.500	1.346	1.534	1.314	1.568	1.283	1.604	1.251	1.642	1.218	1.680	1.186	1.720	1.153	1.761	1.120	1.802
70	1.429	1.485	1.400	1.514	1.372	1.546	1.343	1.577	1.313	1.611	1.283	1.645	1.253	1.680	1.223	1.716	1.192	1.754	1.162	1.792

75	1.448	1.501	1.422	1.529	1.395	1.557	1.368	1.586	1.340	1.617	1.313	1.649	1.284	1.682	1.256	1.714	1.227	1.748	1.199	1.783
80	1.465	1.514	1.440	1.541	1.416	1.568	1.390	1.595	1.364	1.624	1.338	1.653	1.312	1.683	1.285	1.714	1.259	1.745	1.232	1.777
85	1.481	1.529	1.458	1.553	1.434	1.577	1.411	1.603	1.386	1.630	1.362	1.657	1.337	1.685	1.312	1.714	1.287	1.743	1.262	1.773
90	1.496	1.541	1.474	1.563	1.452	1.587	1.429	1.611	1.406	1.636	1.383	1.661	1.360	1.687	1.336	1.714	1.312	1.741	1.288	1.769
95	1.510	1.552	1.489	1.573	1.468	1.596	1.446	1.618	1.425	1.641	1.403	1.666	1.381	1.690	1.358	1.715	1.336	1.741	1.313	1.767
100	1.522	1.562	1.502	1.582	1.482	1.604	1.461	1.625	1.441	1.647	1.421	1.670	1.400	1.693	1.378	1.717	1.357	1.741	1.335	1.765
150	1.611	1.637	1.598	1.651	1.584	1.665	1.571	1.679	1.557	1.693	1.543	1.708	1.530	1.722	1.515	1.737	1.501	1.752	1.486	1.767
200	1.664	1.684	1.653	1.693	1.643	1.704	1.633	1.715	1.623	1.725	1.613	1.735	1.603	1.746	1.592	1.757	1.582	1.768	1.571	1.779

*k’ is the number of regressors excluding the intercept