ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND ECONOMICS

Determinants of Capital Structure Decision; Evidence from Foreign Owned Manufacturing Companies in Ethiopia

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ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND ECONOMICS

Department of Accounting and Finance

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A RESEARCH WORK SUBMITTED TO ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND ECONOMICS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS DEGREE IN ACCOUNTING AND FINANCE

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Approved by Board of Examiners

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Statement of Declaration

I Daniel Teka Kebede declare that this research work entitled “Determinants of Capital Structure Decision; Evidence from Foreign Owned Manufacturing Companies in Ethiopia” is my own work and it has not been submitted for any degree or examination in any other University. I further disclose that all the sources of materials used for this thesis are dully acknowledged.

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Statement of Certification

This is to certify that Daniel Teka Kebede has carried out this research work entitled "Determinants of Capital Structure Decision; Evidence from Foreign Owned Manufacturing Companies in Ethiopia". This work is original in nature and it is sufficient for submission as the partial fulfillment for the award degree in Master of Art in Accounting and finance.

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Abstract

The aim of this study is to investigate the determinants of capital structure decision in foreign owned manufacturing companies in Ethiopia, the study hypothesizes based on different theories of capital structure mainly the trade off and pecking order theory, the study used nine variables namely Leverage as its dependent variable and Profitability, Tangibility, Growth, Liquidity, Earning Volatility, Size, Age and Inflation Rate as its explanatory variables, the study was made by collecting panel data and used audited financial statement of thirteen foreign owned manufacturing companies spanning five years starting from 2015 to 2019 the study employed random effect panel regression model in order to examine the determinants of capital structure decision the models fitness was tested for heteroscedasticity, autocorrelation, and normality and passed all the tests, the results of the study shows that the results show that pecking order theory is prominently important in explaining the capital structure decision of foreign owned manufacturing companies it also showed that, profitability, growth, liquidity, age and size were important variables that influence foreign owned manufacturing companies capital structure decision . On the other hand, the result showed tangibility of asset, earning volatility and the macroeconomic indicator inflation were insignificant, the result of the study also showed that there is a negative relationship between profitability, liquidity, age with companies leverage level and a positive relationship between growth and size with companies leverage level for foreign owned manufacturing companies in Ethiopia. Therefore, managers of this companies should consider the impact of these significant variables in determining their financing needs so as to maximize the value of the company and meet the overall goal of profit maximization.

Key Words: - Capital Structure, Determinate, Foreign Owned, Manufacturing

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List of Acronyms

EV	Earning Volatility
FOMCE	Foreign owned manufacturing companies in Ethiopia
MM	Miller and Modigliani
POT	Peking order theory
Prof	Profitability
ROA	Return on asset
R&D	Research and development
TANG	Tangibility
TOT	Trade of theory

Chapter One

Introduction

1.1 Background of the study

Manufacturing is derived from the Latin word “manufactus”, means made by hand. In modern context it involves making products from raw material by using various processes, by making use of hand tools, machinery or even computers. It is therefore a study of the processes required to make parts and to assemble them in machines. Manufacturing process is that part of the production process which is directly concerned with the change of form or dimensions of the part being produced. It does not include the transportation, handling or storage of parts, as they are not directly concerned with the changes into the form or dimensions of the part produced (Singh, 2006).

Any business that uses components, parts or raw materials to make a finished good, these finished goods can be sold directly to consumers or to other manufacturing businesses that use them for making a different product. Manufacturing businesses in today's world are normally comprised of machines, robots, computers, and humans that all work in a specific manner to create a product (Longdom, 2020). The Ethiopian manufacturing sector is still far from being an engine of growth and economic transformation. It plays a marginal role in employment creation, exports, and output, and is short of stimulating domestic linkages (Oqubay, 2019).

Ethiopia is the largest recipient of foreign direct investment in East Africa, with investments in petroleum refining, mineral extraction and manufacturing. Investment from foreigners in the manufacturing sector in the past ten years has increased dramatically (Nordea, 2016).With all this new foreign investors coming to Ethiopia to invest in different sectors of the economy one of the most important decision they will make is about, the optimal combination of debt and equity used to finance their overall operations and growth (United Nations, 2002).

The choice of the optimal capital structure is a very interesting and probably one of the most controversial areas of finance. It is an area of permanent battles between different managers

defending their favorite approaches, between theorists and practitioners looking at the same problems under different angles, since the area is complicated and requires a superior knowledge of econometrics, microeconomics, accounting, mathematics, game theory etc. (Miglo, 2016).

Establishing a financing plan and addressing the capital structure is done after management has clearly articulated the company's business plan and can articulate how much funding is required, how it will be deployed, and when it is needed. The overall financing strategy will result in a target capital structure and plan to obtain financing from various sources (Marks et al., 2009).

The modern theory of capital structure was first established by Modigliani and Miller (1958). On the irrelevance of capital structure vividly argues that capital structure is irrelevant by their so-called capital-structure irrelevance preposition. However, their examination of irrelevance preposition is based on the assumption of no tax and no bankruptcy cost. As such based on this assumption the weighted average cost of capital should remain constant with changes in the company's capital structure. For example, no matter how the firm borrows there will be no tax benefit from interest payments and thus no benefits to the weighted average cost of capital. Additionally, since there is no benefit from increases in debt, the capital structure does not influence a company's stock price, and the capital structure is therefore irrelevant to a company's stock price. In reality the capital structure irrelevance preposition is clearly evident that the theory does not hold (Chen, 2020)

After the Modigliani and Miller different theory were developed such as Static Trade-off Theory which suggested that optimal capital structure is obtained where the net tax advantage of debt financing balances leverage related costs such as bankruptcy, The Pecking Order Theory which is developed by Myers and Majluf (1984) which stated that capital structure is driven by firm's desire to finance new investments, first internally, then with low-risk debt, and finally if all fails, with equity and Agency theory which focused on the costs which are created due to conflicts of interest between shareholders, managers and debt holders (Jermias & Yigit, 2018).

Several studies have been conducted in the field of capital structure, though no one could find the optimal capital structure. Myers (2001) states that there is no universal theory of debt-equity choice, and there is no reason to expect. In fact, there are several useful conditional theories. Moreover, Kila and Mahmood in 2008 suggest that the key to choose appropriate and acceptable

level of financial leverage is still debatable, i.e., there are no specific guidelines to assist the attainment of efficient mixture of debt and equity (Yohannes, 2019).

1.2 Statement of the problem

For a long period of time, capital structure was considered a very "technical" area that concerned at most one or two employees in an average company. To a traditional business person, this area was unlikely to generate significant revenue compared to other areas of finance such as rightly chosen investment projects. In recent years, the situation has changed significantly. Capital structure has become an incredibly important and intriguing area of theoretical and practical finance (Miglo, 2016).

Defining the capital structure is a critical decision for any business organization to make. The capital structure of a company refers to the amount of its debt and equity, and the types of debt and equity used to fund the operations of the company. The selection of capitalization alternatives is important not only because of the drive to maximize returns to various organizational constituencies, but also because of the impact such a decision has on an organization's ability to deal with its competitive environment (Marks et al., 2009).

In deciding on the right capital structure for a company, shareholders and management must balance the risk of default in repaying debt with the availability of equity capital to pursue growth opportunities. Some emerging growth and middle-market companies may find it easier to obtain debt than equity, making this decision more difficult (when what they really need is equity). If a growth company is too conservative and does not leverage its equity to provide increased capital to invest, it may miss market opportunities and actually erode the overall value of the business by becoming a lesser player in the market (Miglo, 2016).

Local owned manufacturing companies in Ethiopia does not use financial information to make capital structure decision (Kebede, 2011). The biggest motive to do this research is to show the local owned manufacturing companies on what factor to focus on when they make their capital structure decision, by looking at the significant factors that foreign owned manufacturing companies use when they make their capital structure decision.

Many researches have been done on the determinates of capital structure decision here in Ethiopia and abroad but as far as the researcher's knowledge is concerned no research has been made on Determinates of capital structure decision on foreign owned manufacturing companies in Ethiopia. However other researchers have focused on "The Determinants of Capital Structure in Ethiopian Small-Scale Manufacturing Cooperatives" (Kebede, 2011). "The Determinants of Capital Structure: Evidence from insurance companies in Ethiopia" (Alemayehu, 2016) and "Corporate capital structure and its impact on profitability: Evidence for manufacturing firms in Ethiopia" by (Birassa, 2013) and many other researches on the banking and insurance sector.

Therefore, this study attempts to investigate the determinates of capital structure decision on foreign owned manufacturing companies in Addis Ababa, Ethiopia. By using both firm level and macroeconomic factors.

Research Questions

- To what extent does profitability of a company affect the capital structure decision?
- To what percentage capital structure decision of a firm is affected by tangibility of companies' asset?
- To what extent does growth of a company affect the capital structure decision?
- At what level does liquidity of a company affect the capital structure decision?
- Does earning volatility of a firm affect the capital structure decision?
- Does size of the firm affect the capital structure decision significantly?
- To what extent does the age of the firm affect the capital structure decision?
- At what level inflation level of a country affect the capital structure decision of a company?

1.3 Objective of the Study

General Objective

The general objective of this research is to investigate the determinants of capital structure decisions in the case of foreign owned manufacturing companies in Ethiopia.

Specific Objectives

- Show the effect of profitability on firms' capital structure decision.
- To discover the effect of tangibility of asset on firms' capital structure decision.
- Find out the effect of growth firms' capital structure decision.
- Determine the effect of liquidity on firm's capital structure decision.
- Find out the effect of earning volatility on firms' capital structure decision.
- Discover the effect of size on firm's capital structure decision.
- Show the effect of the age of the firm's capital structure decision.
- To determine the effect of inflation level of a country on firm's capital structure decision.

1.4 Significance of the study

This study is significant for local owned small-scale manufacturing companies to know on what factor to focus on when making a capital structure decision. The study is also useful for investors, managers and different stakeholders in the manufacturing sector of the economy. In addition it is helpful for all the companies involved in the study, since it provides more insight over the choice of optimal capital structure or amount of debt and/or equity to employ to fund their operations and finance their assets for any interested party, and it will also serve as an input and basis for other researchers who want to conduct further study on the determinates of capital Structure .

1.5 Scope of the study

The study involved thirteen foreign owned manufacturing companies in Addis Ababa, Ethiopia namely East Africa Bottling Share Company (Coca Cola), AGP Poultry Private Limited Company, Health Care Food Manufacturers Share Company, Gullele Soap Factory Share Company, Debrebirhan Natural Spring Water, ASTCO Manufacturing Private Limited Company, Universal Plastic Factory Private Limited Company, Dangote Cement Ethiopian Private Limited Company, COBA Impact Manufacturing plc, Euro Cable Private Limited Company, Ambo Mineral Water Share Company, Repi Soap and Detergent Share Company and Universal Plastic Factory Private Limited Company. The study used five years of financial statement and focused on the determinants of their capital structure.

1.6 Limitation of the Study

The major limitation of the study was the data unavailability for foreign owned manufacturing companies due to the current highly competitive environment. Also, because of the outbreak of covid-19, it was difficult to collect secondary data in person. However, this was solved by using other mechanisms such as electronic mail to gather the secondary data.

1.7 Organization of the study

This study is organized into five chapters. Chapter includes an introduction, statement of problem, objective of the study, significance of the study, scope of the study, limitations and organization of the study. Chapter two involves extensive theoretical and empirical literature review and conceptual framework of the study depicting the relationship between variables. Chapter three presents research methodology of the study in which research design, target population, sampling procedures, and sample size and data collection methods. Chapter four includes the data analysis and research findings. Finally, Chapter five presents summary, conclusions, recommendations.

Chapter Two

Literature Review

2.1 Theoretical Review

2.1.1 Capital Structure

A business invests in new plant and equipment to generate additional revenues and income, which is the basis for its future growth. The funds raised from sources, such as long-term debt and equity, are referred to as capital, which invested in long-lived assets to generate future cash flows (Drake, 2010). Defining the capital structure is a critical decision for any business organization. The capital structure of a company refers to the amount of debt and equity, and the types of debt and equity used to fund the operations of the company (Marks et al., 2005). Financing decisions go hand in hand with investment decisions. That is, a firm needs sufficient funds to support its activities resulting from its investment decisions. Capital structure refers to the sources of financing employed by the firm. These sources include debt, equity, and hybrid securities that a firm uses to finance its assets, operations, and future growth. Often thought of in terms of financial leverage, a firm's capital structure is a direct determinant of its overall risk and cost of capital (Baker & Martin, 2011)

From a technical perspective, the capital structure is defined as the careful balance between equity and debt that a business uses to finance its assets, day-to-day operations, and future growth. From a tactical perspective however, it influences everything from the firm's risk profile, how easy it is to get funding, how expensive that funding is, the return its investors and lenders expect, and its degree of insulation from both microeconomic business decisions and macroeconomic downturns (Zhu, 2014).

Without finance to support their fixed assets and working capital requirements, businesses could not exist. There are three primary sources of finance for companies:

- a cash surplus from operating activities
- new equity funding

Borrowing from bank and non-bank sources. Non-bank sources are mainly investors in the capital markets who subscribe for bonds and other securities issued by companies. The choice between equity, debt and hybrid financial instruments is influenced by a variety of factors (Coyle, 2006). And the sources of capital have important consequences for the firm and can affect its value and hence shareholder wealth. (Baker & Martin, 2011)

Development of the capital structure is part of the financing process. Establishing a financing plan and addressing the capital structure is done after management has clearly articulated the company's business plan and can articulate how much funding is required, how it will be deployed, and when it is needed (Marks et al., 2005). Capital structure decisions are long-term decisions involving the acquisition, retention, and redemption of funds at various time periods. (Agarwal, 2013)

The effect of capital structure on the cost of capital affects the debt versus equity decision and the determination of the cost of capital affects the cut-off rate that is conventionally used to determine which independent investments are acceptable. Cost of capital can be defined as the cost to the corporation of obtaining funds (Bierman, 2003). The cost of capital is the average return, over the long term that investors expect to receive from their investment. It is therefore the average yield that companies should expect to pay. There is the cost of equity stocks, and a cost for each issue of debt capital and each bank loan. Each financial instrument has a different cost to the issuer, and the cost of capital can vary over time, as investor expectations change (Coyle, 2006).

Firms need to keep three things in mind before raising funds. First, the amount of cash flow that is sought by the action (both inflow and outflow); second, the time horizon for which the funds are to be raised and retained; third, the financial (such as interest charges, government taxes, and others) and non-financial obligations (such as risk perception, transition probabilities of credit defaults, and others) associated with the funds (Agarwal, 2013) .The selection of capitalization alternatives is important not only because of the drive to maximize returns to various organizational constituencies, but also because of the impact such a decision has on an organization's ability to deal with its competitive environment (Marks et al., 2005).

Business leaders need to independently come up with a capital structure that works best for their operation. Should more debt financing be used to protect ownership and earn a higher return? Should more equity financing be used to avoid the risk of excessive debt and bankruptcy? These

choices have to be made on a case-by-case basis, at both small businesses and large corporations (Carlson, 2020). The concept is extremely important because it can influence the return a company earns for its shareholders and whether or not a firm survives in a recession or depression (Kenon, 2019).

There are two approaches to managing a company's capital structure: a reactive and a proactive approach. The reactive approach is to take funding decisions when a requirement for funding becomes apparent, and to raise or reduce capital by the method that seems best at the time. The proactive approach that is found in companies with large and well-organized treasury functions is to forecast future funding requirements or funding surpluses as much as possible. It can also be taken to reducing funds, whenever a company considers its current funding to be in excess of requirements for the foreseeable, long-term future (Coyle, 2006). In addition, with income taxes, the capital structure affects the cash flows available for investors from a corporation (Bierman, 2003).

2.1.2 Components of Capital Structure

The timing of the various kinds of cash flow and other obligations is dependent on the source of funds used by a firm. The combination of debt and equity used to finance a company's projects is referred to as capital structure. The capital structure of a firm is some mix of debt, internally generated equity and new equity (Drake, 2010).

Equity

Equity is the strategic capital of a firm that acts as a natural hedge for the firm's risk. Ownership rights, control on strategic issues, and rewards in the form of dividend growth and capital appreciation are the common attributes of this issue (Agarwal, 2013). It all depends on how much equity there should be, and what the source (or sources) of new equity should be. Equity finance can be the only source of new funds for companies that are financially weak and have a low credit rating (Coyle, 2006).

The main characteristics of equity capital are

- Ownership interest

- Common stockholders vote for the board of directors and other issues
- Dividends are not considered a cost of doing business and are not tax deductible
- Dividends are not a liability of the firm and stockholders have no legal resource if dividends are not paid
- An all-equity firm cannot go bankrupt (Miglo, 2016)

One way to pay for investments is to generate capital from the firm's operations. Earnings belong to the owners and can either be paid to them in the form of cash dividends or plowed back into the firm. The owner's investment in the firm is referred to as owners' equity or simply, equity. If management plows earnings back into the firm, the owners expect it to be invested in projects that will enhance the value of the firm. And hence, enhance the value of their equity. Therefore, funds from reinvested earnings represent capital from equity (Drake, 2010).

Some companies are able to finance their activities entirely from internally generated cash flows. Typically, their business operations are cash cows, and there is not much need for capital to finance new investments and growth. There is more cash coming into the business than the company needs to spend (Coyle, 2006). Equity is typically defined as an ownership interest in an entity that permits a holder of the equity instrument to participate in the growth and success of the entity. This participation is normally represented by the right of the equity holder to claim a proportional interest in a company's assets and profits (Marks et al., 2005).

A firm generates this resource from investors in lieu of the voting rights, control, dividend payments, and capital appreciation offered on this instrument. It is under no financial obligation to make dividend payments or provide capital appreciation or to offer a buyback on this instrument. Only in the case of buybacks, restructuring, or liquidation would these funds be removed or adjusted on the balance sheet. Only in the case of buybacks, restructuring, or liquidation would these funds be removed or adjusted on the balance sheet (Agarwal, 2013).

In most cases there is no fixed obligation for a company to repay an equity holder the amount of the holder's investment at any fixed point in time. An individual equity holder's proportional interest in a company is determined by taking the total number of shares of equity owned by the individual and dividing that number by the total number of shares of equity of the entire company that are outstanding and held by all equity holders (Marks et al., 2005). Equity consists of common

stock supplemented by retained profits and other reserves. Equity is a high-cost method of funding because, in the long term, equity holders will expect a higher return to compensate them for the risks of volatile earnings. However, companies must have a sufficient equity base to reassure lenders who want to avoid high exposure to credit risk (Coyle, 2006).

A primary advantage of issuing equity is the characteristic that most equity carries with its issuance no fixed obligation on the part of a company to repay the amount of equity invested. The primary disadvantage of issuing equity is that the issuance dilutes the ownership interest of existing equity holders in the future growth of the company (Marks et al., 2005)

Debt

Debt is normally described as a liability or obligation of a company that is evidenced by a note or written obligation of the company to repay the debt with interest at some future point in time, on a specified schedule or by a specified maturity date (Marks et al., 2005).

The main characteristics of equity capital are

- No ownership interests
- Creditors do not have voting rights
- Interest is considered a cost of doing business and is tax deductible
- Creditors have legal resources if interest or principal payments are missed
- Excess debt can lead to financial distress and bankruptcy (Miglo, 2016).

If a firm finances its activities with debt, the creditors expect the amount of the interest and principle fixed, legal commitments to be paid back as promised. Failure to pay may result in legal actions by the creditors (Drake, 2010).

Debt capital is provided mainly by two types of lender or investor. These are banks (bank loans and facilities) and institutional investors (for example, pension funds, mutual funds and life assurance companies), who invest in debt securities, such as bonds and commercial paper. (Coyle, 2006). Debt issues, unlike equity issues, do transfer ownership but create a financial obligation for a firm. No firm can issue default-free debt, and uncertainties make such issues more costly. The tax shield on the issue makes it less expensive. Fear of default on the service of either the interest

payment or the principal repayment demands the creation of special reserves or funds known as sinking funds, which may reduce the benefits of debt (Agarwal, 2013).

In contrast with the rights of an equity holder, a debt holder normally has no right to vote on the affairs of a company, and no right to participate in the growth of a company's assets or profits, except to receive scheduled principal and interest payments. The rights to payment of principal and interest are, however, senior in priority to the rights of equity holders to receive dividends and distributions of a company, and the rights of a holder of debt may be secured by a pledge of a security interest in the assets or the cash flows of the company. (Marks et al., 2005). Debt is rarely perpetual and must be redeemed at some future time. This can be an advantage to companies that need external funds for a limited number of years. Debt capital can be borrowed and repaid to suit the expected cash flows of a company, giving the company greater flexibility to plan and control its capital structure (Coyle, 2006).

There are several advantages to issuing debt, including the fact that debt holders have no right to participate in the growth and appreciation of a company, and therefore, existing equity holders are not diluted. In addition, debt instruments contain specified repayment schedules and as a result management has the ability to plan for the repayment of the debt instrument. Disadvantages related to the issuance of debt include the diversion of cash away from the operations and growth of the business resulting from scheduled repayments of principal and interest. Other disadvantages include limitations on the freedom of management to operate a company (Marks et al., 2005).

Hybrid instruments

Hybrid financial instruments are securities issued by a company that combine features of both equity and debt. Typically, they offer investors a fixed income for several years, and the opportunity to acquire equity stocks in the company, on or after a specified future date. The total volume of hybrid funding by companies is small relative to the amount of equity or debt capital (Coyle, 2006). A class of the capital structure in publicly traded companies that also blends equity and debt features. By definition, hybrid securities are bought and sold through brokers on an exchange. Hybrid financing can come with fixed or floating returns, and can pay interest or dividends (Zhu, 2014). A hybrid security is a security that integrates or bundles several components of a single issuer's capital structure into a single financial capital claim (Culp, 2006)

Although in principle, a twofold distinction between equity and debt can appear quite straightforward because of their contrasting characteristics, it is in reality blurred by the existence of hybrid financial instruments, which consist in securities with a mix of both equity and debt features. Therefore, hybrids complicate the task of the regulators because they provide the users with an optimal tool of regulatory arbitrage (Sasso, 2013). There is one significant disadvantage to hybrid funding. Company management might regard equity conversion at some time in the future as a certainty rather than a possibility (Coyle, 2006).

Optimal Capital Structure

Capital structure decisions are made simultaneously with other decisions that can be solved by simultaneous equations to compute maximum firm value (Swanson et al., 2003). Choosing optimal capital structure of the company, i.e., proportion of debt and equity, which minimizes weighted average cost of capital (WACC) and maximizes the company capitalization, is one of the most important tasks of the management of a company (Brusov et al., 2018). The optimal capital structure for a company should be the mix of equity, debt and hybrid instruments that minimizes the overall cost of funding, i.e. it should minimize the company's weighted average cost of capital (Coyle, 2006). Optimal capital structure exists that balances the risk of bankruptcy with the tax savings of debt. In other words, a company should use both equity and debt to fund its operations. Once established, a capital structure comprised of debt and equity should provide greater returns to stockholders than they would receive from an all-equity firm. (Marks et al., 2005).

The trade-off theory of optimal capital structure implies that a firm's optimal capital structure exists at some leverage ratio that exactly equates the marginal benefit of debt to its marginal cost (Culp, 2006). In practice, it is not possible to specify this optimal capital structure exactly, for any individual company (Coyle, 2006). This strategy is accomplished by reducing the amount of equity and increasing the amount of debt, thereby, in theory, reducing the overall cost of capital. In deciding on the right capital structure for a company, shareholders and management must balance the risk of default in repaying debt with the availability of equity capital to pursue growth opportunities (Marks et al., 2005).

Optimum capital structure is the capital structure at which the weighted average cost of capital is minimum and thereby the value of the firm is maximum. Optimum capital structure may be defined

as the capital structure or combination of debt and equity that leads to the maximum value of the firm. Decision of capital structure aims at the following two important objectives: maximize the value of the firm and minimize the overall cost of capital (Sameer, 2015). The optimal capital structure of a company refers to the proportion in which it structures its equity and debt. It is designed to maintain the perfect balance between maximizing the wealth and worth of the company and minimizing its cost of capital. The objective of a company is to determine the lowest weighted average cost of capital (WACC) while deciding on its capital structure. The WACC is the weighted average of its cost of equity and debt. It is not mandatory for a company to take any debt (Athena, 2021).

Although management cannot be specific about the optimal capital structure for their company, they should at least be aware of

- how banks and the capital markets might respond to an increase in the company's leverage level if it were to borrow new funds, and
- Whether the company is sufficiently low geared to make new debt capital an attractive option, compared to a new issue of equity as a fund-raising measure (Coyle, 2006).

Key points in designing an optimal capital structure are maximize the company's wealth which is calculated in terms of the present value of future cash flows; minimize the cost of capital by which the lower the cost of the capital, the lower is the risk of insolvency. The lower the cost of capital, the higher will be its present value of future cash flows; Simplicity in structure by which it should be simple to structure and understand while a complicated capital structure will only create confusion and maintain control implying that an optimal capital structure maintains the owners' rights and control (Athena, 2021)

2.1.3 Capital Structure Theories

In financial management, capital structure theory refers to a systematic approach to financing business activities through a combination of equities and liabilities. There are several competing capital structure theories exploring debt and equity (Ross, 2019).

Trade-Off Theory

According to Myers (1984), a firm that follows the trade-off theory sets a target debt-to-value ratio and then gradually moves toward the target. The target is determined by balancing debt tax shields against costs of bankruptcy (Eckbo, 2007). The trade-off theory suggests that capital structure reflects a trade-off between the tax benefits of debt and the expected costs of bankruptcy. Under this theory, the firm's value equals the value of the unlevered firm (with the same assets) plus the benefits of the tax advantage of debt minus the expected bankruptcy costs (Miglo, 2016). The tradeoff theory says that firms seek debt levels that balance the tax advantages of additional debt against the costs of possible financial distress. The tradeoff theory predicts moderate borrowing by tax-paying firms (Myers, 2001).

There are two versions of this theory: static and dynamic. Former one is based on the fact that at the low leverage level, the benefits of debt financing are manifested: when WACC drops with leverage, a company's capitalization grows. Starting with a certain leverage level, financial distress costs and risk of bankruptcy are growing, the WACC begins to grow, and the value of the company begins to fall. The leverage level, at which the value of tax benefits is approximately equal to the cost of bankruptcy, determines the optimal (objective) capital structure (Brusov et al., 2018). In the static trade-off theory, as originally introduced by Kraus and Litzenberger (1973), firms balance the tax benefits of debt against the deadweight costs of financial distress and bankruptcy. Because firms are allowed to deduct interest paid on debt from their tax liability, they favor debt over equity. The present value of the resulting gains from choosing debt over equity, the so-called tax shield, increases firm value. Without any additional and offsetting cost of debt, this tax advantage would imply full debt financing. Firm is said to follow the static trade-off theory if its leverage is determined by a single period trade-off between the tax benefits of debt and the deadweight costs of bankruptcy as well as the agency costs of debt and equity (Baker & Martin, 2011).

The tradeoff theory justifies moderate debt ratios. It says that the firm will borrow up to the point where the marginal value of tax shields on additional debt is just offset by the increase in the present value of possible costs of financial distress. It is in immediate trouble on the tax front, because it seems to rule out conservative debt ratios by taxpaying firms. If the theory is right, a

value-maximizing firm should never pass up interest tax shields when the probability of financial distress is remotely low. The tradeoff theory of optimal capital structure has strong commonsense appeal. It rationalizes moderate debt ratios (Myers, 2001).

Reduction in financial sustainability of companies and increase of bankruptcy risk, which relate to the use of different forms of borrowing in the formation of financial capital structure of the company, are increased with the increasing of debt (Brusov et al., 2018). Overall, a firm is said to follow the static trade-off theory if its leverage is determined by a single period trade-off between the tax benefits of debt and the deadweight costs of bankruptcy as well as the agency costs of debt and equity. However, the static model only focuses on a single-period decision and does not contain the notion of target adjustment. More specifically, it has a solution for leverage, but there is no room for the firm ever to be anywhere but at this optimum (Baker & Martin, 2011).

Pecking Order Theory

The pecking order theory comes from Myers (1984) that argues that adverse selection implies that retained earnings are better than debt and debt is better than equity. A firm is said to follow a pecking order if it prefers internal to external financing and debt to equity if external financing is used (Eckbo, 2007). Based on the notion of asymmetric information between firm insiders and outsiders and the resulting adverse selection problems. Managers will have more information about the true value of a firm's assets and future growth opportunities than outside investors, and hence investors closely observe financing decisions to infer information about a firm's prospects (Baker & Martin, 2011).

The pecking order theory made the following claims:

- Firms prefer internal financing over external financing.
- Firms are sensitive about investor perception of dividend pay-outs and hence adapt their pay-outs to their investment opportunities. They adjust the dividend pay-outs gradually to secure internal funding. In case they face financial deficits via internal funds that are not sufficient to fund investment opportunities, then firms look for other avenues.
- A firm facing financing deficits would then draw on its cash balances and marketable securities for funds. In case it is still short on its funding requirement, it would next

> approach the market to issue the safest security first, then hybrid securities, and then equity as a last resort. Hence, there is no well-defined target debt-equity mix that a firm follows. A firm uses two kinds of equity, internal and external: one at the top of the pecking order and the other at the bottom (Agarwal, 2013).

It implies that managers will follow the path of least resistance, and that they will work down a pecking order by opting to issue the cheapest form of financing. In this case, firms will opt for retained earnings as it has no adverse selection problems. When retained earnings are exhausted, the firm can then issue debt. When it does not make any more sense to issue more debt, equity can be issued as a financing source of last resort (University of Pertoria, 2008). In addition, the pecking order theory says that the firm will borrow, rather than issuing equity, when internal cash flow is not sufficient to fund capital expenditures (Myers, 2001).

In contrast to the trade-off theory, the pecking order theory has no predictions about an optimal debt ratio. It rather posits that a firm's capital structure is the result of the firm's financing requirements over time and its attempt to minimize adverse selection costs. The pecking order theory ranks financing sources according to the degree they are affected by information asymmetry, where internal funds exhibit the lowest and equity the highest adverse selection costs (Baker & Martin, 2011).

Myers and Majluf analyzed a firm with assets-in-place and a growth opportunity requiring additional financing. They assumed perfect financial markets, except that investors do not know the true value of either the existing assets or the new opportunity. Therefore, investors cannot precisely value the securities issued to finance the new investment (Myers, 2001). A good firm should always rely on retained earnings to finance new projects. These ideas were put forth by Myers (1984) and Myers and Majluff (1984). Under asymmetric information, good quality firms should first use internal funds to finance new investments because this is at least as good as external financing. If good quality firms use internal financing, the financing strategy of bad quality firms is irrelevant. And when internal funds are not available, and debt is risk-free, good quality firms should use debt to finance new investments. The financing strategy of bad quality firms is irrelevant (Miglo, 2016).

The pecking order theory explains why the bulk of external financing comes from debt. It also explains why more profitable firms borrow less: not because their target debt ratio is low in the pecking order they don't have a target- but because profitable firms have more internal financing available. Less profitable firms require external financing, and consequently accumulate debt. In addition, it says that the key time-series variable is the firm's cumulative requirement for external financing its cumulative "balance of payments" with outside investors. Each year's requirement equals internally generated cash flow less cash spent on capital investment and dividends. The pecking order says that this financial deficit will be covered entirely by borrowing, at least at low or moderate debt ratios. If the deficit is negative, the surplus of internal funds is used to pay down debt (Myers, 2001).

Market Timing Theory

Baker and Wurgler (2002) document that market timing efforts - that is, issuing equity when the stock market is perceived to be more favorable and market to- book (M/B) ratios are relatively high - have a persistent impact on corporate capital structures. They argue that neither the trade-off theory nor the pecking order theory is consistent with the persistent negative effect of a weighted average of a firm's past M/B ratios on firm leverage. Instead, the authors suggest that firms time their equity issues to stock market conditions. The capital structure changes induced by these equity issues persist because firms do not readjust their debt ratios towards the target afterwards. They contend an ad hoc theory of the capital structure, where the observed capital structure is not the result of a dynamic optimization strategy but merely reflects the cumulative outcome of past attempts to time the equity market (Baker & Martin, 2011).

The Modigliani-Miller Model

Modigliani and Miller in 1958, have showed that choosing of the ratio between the debt and equity capital does not affect company value as well as capital costs and have analyzed the impact of financial leverage, supposing the absence of any taxes (on corporate profit as well as individual one) (Brusov et al., 2018).Their article informed that the finance community that the value of a firm was invariant to capital structure decisions (Bierman, 2003). This theory suggests that under very strict and unrealistic assumptions, company's capital structure does not matter. It demonstrates how the division between the two is irrelevant to the value of the firm and the

doctrine on corporate finance should not concern itself with figuring out the perfect debt-equity ratio to maximize the shareholders' value (Sasso, 2013).

For the first time, they introduced the behavioral side of finance to capital structure decision making. They dismissed the claim that debt financing, being a cheaper source, could make a levered firm more valuable than an unlevered firm, when information, allocation, and distribution efficiency and symmetry exist in perfect capital markets. Arbitrage opportunities that are available to investors in perfect capital markets, in which there is no cost for switching from personal to corporate leverage, would make investors repeatedly trade between the stocks of levered and unlevered firms within a homogenous risk class (Agarwal, 2013). They showed theoretically that the choice of a firm's debt/equity financing mix has no impact on its firm value under certain assumptions. Their analysis and assumptions formed the foundation for almost all subsequent analyses of debt/equity decisions (Swanson et al., 2003).

The theorem was published in 1958 and since then has been considered by many as the foundation of the modern corporate finance. Based on their assumption, proposition establishes a company capital structure does not matter because it is completely independent from the investment choices. The second proposition establishes that gearing the firm does not increase the shareholders ' return or reduce the cost of capital, because the cost of equity capital is a linear function of the debt-equity ratio. As a conclusion, they state that the optimum ratio equity/debt is completely unaffected by the type of security used to finance the investment (Sasso, 2013). Modigliani and Miller (1958) proved that the choice between debt and equity financing has no material effects on the value of the firm or on the cost or availability of capital. They assumed perfect and frictionless capital markets, in which financial innovation would quickly extinguish any deviation from their predicted equilibrium (Myers, 2001).

In this way, the Modigliani–Miller theorem argues that in the absence of the taxes, the capital structure of the company does not affect the value of the company and its weighted average cost of capital, WACC, and equity cost increases linearly with the increase of financial leverage (Brusov et al., 2018). Modigliani and Miller further assumed that there were no taxes in the economy. Trading would ensure that the stocks of the two firms' value only the rewards of the

business risk and not the financial risk. Hence, they concluded that capital structures are irrelevant for determining the value of a firm (Agarwal, 2013)

Miller and Modigliani (1961) provide a new perspective on optimal capital structure and dividend policy. Using arbitrage arguments, they prove that under very restrictive assumptions neither capital structure nor dividend decisions matter. Therefore, such decisions should not have any impact on the market value of a firm. Because financing, capital structure, and dividend decisions do not enhance shareholder value, they are deemed to be irrelevant. (Baker & Martin, 2011). In 1963, Modigliani and Miller revisited their model and introduced the role of taxes. They found that levered fi rms were valued higher than unlevered fi rms by the amount of the tax shield they received on the debt of a firm. The same year they offered a positive consenting note on the relationship between the value of a firm and optimal capital structures (Agarwal, 2013). They obtained the value of financially dependent company is equal to the value of the company of the same risk group used no leverage, increased by the value of tax shield arising from financial leverage, and equal to the product of rate of corporate income tax and the value of debt. And stated that Equity cost of Leverage Company paying tax on profit could be found as equity cost of financially independent company of the same group of risk, plus premium for risk, the value which is equal to production of difference on leverage level and on tax shield (Brusov et al., 2018).

Assumptions underlying the MM (perfect market assumptions) analysis are as follows:

1. Perfect competition and minimal transaction costs
2. No asymmetric information among investors
3. No taxes
4. No bankruptcy costs
5. Contracts are easily enforced
6. No arbitrage opportunities

The basic MM proposition is as elegant as it is simple. They make the following simplifying assumptions: markets are perfect; markets are complete; firms can be categorized into equivalent risk classes such that the inherent business risk is the same for all firms in that class; all investors have common beliefs about the securities; and all investors are rational. It is also assumed that there are no agency costs and that the managers are interested in maximizing the value of the firm.

Within the preceding framework of assumptions, MM asserted that a firm cannot change the total value of its outstanding securities by changing the proportion of its capital structure. They assumed that there is no tax, no growth, depreciation is zero for the firm, and the firm will last forever; therefore, the firm value can be defined as the present value of the perpetual operating cash flows (Swanson et al., 2003).

An arbitrage opportunity is a situation where an investor is able to make a profit by simply selling and buying securities without incurring any additional investment cost. Under the above assumptions, firms cannot increase their value by changing their capital structure. The value of the firm is independent of the debt ratio (Miglo, 2016). The fundamental contribution of the M&M theorem is that it structures the debate on why irrelevance of the financial structure fails around the theorem's assumptions, i.e., neutral taxes, no transaction costs, asset trade restrictions or bankruptcy costs; symmetric access to credit markets, symmetric information and firm financial policy. So, doing the theorem identifies exactly where to look for determinants of optimal capital structure and how those factors might affect capital structure (Sasso, 2013).

Modigliani and Miller (1958) ask several other questions: How is management to ascertain the risk preferences of its stockholders and to compromise among their tastes? How can economists build a meaningful investment function in the face of the fact that any given investment opportunity might or might not be worth exploiting, depending on precisely who happens to be the owner of the firm at the moment? By answering these questions, MM establish the principles that govern the rational investment and financial policy in a world of uncertainty. Namely, they suggest the market value maximization criterion provides a workable theory of investment (Baker & Martin, 2011). The theory of business finance in a modern sense starts with the Modigliani and Miller (1958) capital structure irrelevance proposition. Until then, there was no generally accepted theory of capital structure. Modigliani and Miller’s initial assumption is that the firm has a particular set of expected cash flows. The investor can create any leverage that was wanted but not offered, or the investor can get rid of any leverage that the firm took on but was not wanted. The leverage of the firm has no effect on the market value of the firm (Eckbo, 2007).

Agency Cost Theory

The capital structure paradigm with respect to agency issues is definitely a necessary feature to make the decision making more realistic. Agency cost is defined as the total cost of creating and structuring contracts, including monitoring costs, bonding costs, and the residual loss of opportunities that could have been beneficial in the absence of such conflict of interests. All the different components of agency costs impact the capital structure of the firm (Swanson et al., 2003). Moreover, agency cost is defined as the sum of the monitoring expenditures by the principal,' the bonding expenditures by the agent, and the residual loss (Meckling, 1976).

Traditionally, the argument was that outside financing required managers to explain the project details to outside investors and therefore expose themselves to investor monitoring. Managers dislike this process and prefer retained earnings to external financing. But there is no direct prediction about the relative use of debt versus equity when seeking external financing (Eckbo, 2007). Agency costs represent another type of costs that should be weighed against the tax advantage of debt. Jensen and Meckling (1976) argue that managers have an incentive to strive for maximization of equity value instead of total firm value (Meckling, 1976). The optimal capital structure is chosen to minimize the sum of agency costs resulting from that capital structure and the transaction costs needed to implement the capital structure (Swanson et al., 2003).

Agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. Since the relationship between the stockholders and manager of a corporation fit the definition of a pure agency relationship it should be no surprise to discover that the issues associated with the "separation of ownership and control" in the modern diffuse ownership corporation are intimately associated with the general problem of agency (Meckling, 1976).

Managers of debt-financed firms tend to engage in risk-shifting strategies when they have free cash flow available. Specifically, they favor risky projects that benefit shareholders in the case of success but burden losses on bondholders in the case of failure. Rational bond investors are aware of this type of overinvestment problem, and hence they demand a risk premium and consequently

a higher interest payment as a compensation for this behavior. These increased costs reduce the attractiveness for firms to issue debt (Baker & Martin, 2011).

The agency cost of the stockholder-manager relationship arises from two sources. The first is the unobservability of manager's productive effort. The manager prefers less effort, but this behavior results in (stochastically) less output. However, the manager prefers more compensation and by linking the compensation to a proper measure of the output, this agency cost is reduced. The second source of agency cost arises from asymmetry of information. The manager privately knows his or her own ability (adverse selection problem) and often observes signals on the future of the firm that are valuable to the investor but not observed by the investor. The manager extracts "information rent" from this asymmetry, and it constitutes another agency cost. At an intuitive level, if the manager owns a larger part of the firm, the agency cost is reduced. If the manager's investment is held constant and the proportion of debt is increased, the manager's part of equity ownership increases, and this reduces the agency problem. In turn, because the agents want to minimize agency costs in their decisions, this predilection might call for an increase in the debt (Swanson et al., 2003)

2.1.4 Capital Structure Factors

Most evidences documented suggests that firm specific characteristics such as size, age, profitability, asset tangibility, growth prospects, taxes, non-debt tax shields and dividend policy have an impact on firm financing. Firm profitability tends to be negatively related to leverage. However, with regard to size, the evidence is mixed with some studies reporting a positive relationship between size and firm leverage, while others suggest that a negative relationship exists. Asset tangibility appears to be positively correlated to leverage and growth coefficients tend to be negative when the market to book ratio is used as a proxy for growth prospects (University of Pertoria, 2008).

Tangibility of Assets

The tangibility of assets can be interpreted as a measure for the level of collateral a firm can offer to its debtors. A high ratio of fixed-to-total assets provides debtors with a high level of security since they can liquidate assets in case of bankruptcy. In contrast, a low ratio of fixed-to-total assets

leaves little collateral (assets) for debtors in case of bankruptcy (Baker & Martin, 2011). The value of tangible assets is a factor affecting the capital structure according to the pecking order theory of debt. This shows that as these assets are pledged as collateral, the larger their share, the higher the leverage (Bereźnicka, 2013). From the three main theories examined, the static Trade-off theory and Agency Cost theory postulates that there is a positive relationship between the leverage ratio of a firm and its asset tangibility, while the Pecking Order theory postulates a negative relationship between leverage ratio and asset tangibility (Olakunle& Oni, 2014)

Tangibility of assets can be measured using a variety of proxy variables. Examples include the ratio of net property, plant, and equipment to total assets; the ratio of research and development (R&D) expenses to sales; and the ratio of selling, general and administration expenses to sales. (Baker & Martin, 2011). Agency costs of debt can be mitigated if the collateral value of assets is high. Hence, asset tangibility is likely to be positively associated with leverage. Furthermore, in the event of bankruptcy, a higher proportion of tangible assets could enhance the salvage value of the firm's assets. The lenders of finance are thus willing to advance loans to firms with a high proportion of tangible assets. There is a positive association between asset tangibility and leverage predicted by capital structure theorists. A negative association is observed only in exceptional circumstances. This is because of the influence of the institutional environment on the providers of loan capital (University of Pertoria, 2008).

Tangible assets help firms obtain more debt from lenders as tangible assets act as collateral, making debt less risky. Lenders are more willing to lend to firms with high tangible assets as these assets are easier to repossess in bankruptcy; thus a positive relationship is anticipated between tangible asset and debt financing as explained by the tradeoff theory (Gokten & Kucukkocaoglu, 2018). When firms hold a high portion of tangible assets compared to total assets, the tangible assets can be used as collateral. The collateral assets assist firms in being able to borrow more because lenders will be more confident that managers will make a decision decisively before investing in a risky project. Hence, collateral assets can mitigate agency costs of debt problems and also push towards an optimal debt ratio. The result shows the positive relationship between tangibility and debt-to-equity ratio. On the other hand, they also tested intangible assets to total assets. Unsurprisingly, the results exhibit a negative relationship of intangible assets and leverage because they cannot be used as collateral (Titman & Wessels, 1988).

Firm Size

The trade-off theory predicts an inverse relationship between size and the probability of bankruptcy, and hence a positive relationship between size and leverage. On the other hand, size can be regarded as a proxy for information asymmetry between firm insiders and capital markets. Accordingly, the pecking order theory predicts a negative relationship between leverage and size, with larger firms exhibiting increasing preference for equity relative to debt. Firm size is usually measured as the logarithm of total assets or sales (Baker & Martin, 2011). In simple institution, the fixed costs of refinancing are proportionally more costly for smaller firms. In a dynamic setting, this implies that compared to large firms, small firms will require larger deviations from their leverage targets to refinance. If being over leveraged is more costly than being under-leveraged, then smaller firms facing comparatively high refinance costs may choose lower leverage ratios (Parsons, 2009).

Size tends to be strongly and positively correlated with leverage. However, long term leverage is found to be inversely related to the size variable. This is due to the low information asymmetries associated with large firms (University of Pertoria, 2008). Size of firm is also documented to have a significant influence on debt financing. Large firms are seen to have better access to a bigger debt consumption as they are more diversified, thus lesser tendency to fail. This indicates a positive relationship which supports the tradeoff theory. Larger firms should be less affected by information asymmetry problems as information regarding the firms is much easier to obtain and more accessible comparatively, thus debt financing is easily accessible to them (Gokten & Kucukkocaoglu, 2018).

Growth Opportunities

The trade-off theory predicts that firms with more investment opportunities have less leverage because they have stronger incentives to avoid underinvestment and asset substitution that can arise from stockholder bondholder agency conflicts (Baker & Martin, 2011). It signifies that there is a negative relationship between leverage and growth opportunities according to the trade-off theory.

Most studies that use the growth rate of assets as a proxy for firm growth opportunities tend to exhibit strong positive correlations. On the other hand, most studies that use some form of a market to book value of assets ratio reveal negative associations between growth and leverage. This is because growth in the asset base of a company provides an incentive for creditors to advance loans to growth firms. Conversely, the market to book ratio reveals intangible growth opportunities which may not easily be collateralized (University of Pertoria, 2008). Firms with good record require huge funds to continue its encouraging growth and investment opportunities for expansion. The agency theory explains that growth firms will choose to issue equities to fund their operations and investments as a signal to the outsiders that they are not facing any underinvestment and asset substitution problems. Therefore, growth is expected to relate negatively with leverage (Gokten & Kucukkocaoglu, 2018).

The predictions of the pecking order are not clear-cut. In its simplest form, it suggests a positive relationship between leverage and growth opportunities. Debt typically grows when investment exceeds retained earnings and falls when investment is less than retained earnings. Therefore, given profitability, book leverage is predicted to be higher for firms with more investment opportunities. However, a more complex version of the pecking order theory posits that firms with larger expected investments exhibit less current leverage. In most instances, growth opportunities are measured using the M/B ratio. Alternatively, the change in the logarithm of total assets or the ratio of capital expenditures to assets can be used to capture the growth potential (Baker & Martin, 2011). The share price of firms reflects investors' expectations. On the one hand, a firm with high market value compared to its book value implies that it has a high growth opportunity or overvalue. On the other hand, the firm with low market-to-book ratio is defined as low growth or undervalue. From a trade-off theory point of view, firms with high growth will have less free cash flow problems. Moreover market-timing theory supports the high growth firm's preference for issuing equity rather than debt financing when its stock price is overvalued (Nnadi, 2016).

Profitability

The trade-off theory, bankruptcy costs, taxes, and agency costs push more profitable firms towards higher leverage. First, expected bankruptcy costs decline when profitability increases. Second, the deductibility of interest payments for tax purposes induces more profitable firms to finance with

debt. In sharp contrast, the pecking order model predicts that higher earnings should result in less leverage. Firms prefer raising capital initially from retained earnings, then from debt, and finally from issuing new equity. This hierarchy of financing choices is due to the adverse selection costs associated with new equity issues in the presence of information asymmetries. In this case, debt grows when investment exceeds retained earnings and falls when investment is less then retained earnings. Accordingly, a negative relationship between leverage and profitability would be a strong support for the pecking order theory. Two measures for profitability are frequently used in the literature: the return on assets and the gross margin. The return on assets is computed as the ratio of operating income before depreciation to assets, and the gross margin is defined as the ratio of operating income to sales. (Baker & Martin, 2011)

According to Modigliani–Miller, the increasing of level of debt in the capital structure of the company does not lead to increased value of firms, because the benefits gained from the use of more low-cost debt capital markets will be exactly offset by an increase in risk (risk of bankruptcy) and, therefore, by an increase in cost of equity capital of firms: investors will increase the required level of profitability under increased risk, by which a higher level of debt in the capital structure is accompanied (Brusov et al., 2018). Myers and Majluf (1984) predict that a negative relationship should exist between firm profitability and leverage. They contend that firms that are more profitable will prefer to use retained earnings, and thus will have lower debt ratios. However, the trade-off theory posits that, in order to take advantage of the interest tax shields associated with higher leverage, more profitable firms will have higher debt ratios. Similarly, the free cash flow theory hypothesizes that profitable firms should issue more debt. This is a measure to bond the future cash flows and to discipline managers by paying out cash to bondholders instead of wasting the funds on negative NPV projects. The pecking order theory hypothesizes that profitability is inversely related to leverage. In contrast, the trade-off and the free cash flow theories suggest that profitability is directly related to leverage (University of Pertoria, 2008).

Profitability is usually defined by Earnings before interest, taxes, depreciation and amortization (EBITDA) to total assets. Previous studies exhibited two different scenarios. In the first scenario, trade-off theory predicts that firms with high profitability tend to borrow more in order to gain tax shield benefits. On the other hand, the pecking order theory explains that the choices of source of finance that firms prefer are internal finance, debt, and issue of equity, respectively. Based on

trade-off theory, the positive relationship between leverage and profitability because firms will borrow more to gain tax shield advantages, is expected (Nnadi, 2016). Managers of firms with high profit and cashflows might opt to internal resources first when deciding on investment financing as a mean to mitigate information asymmetry as these are the cheapest funds rather than using external financing either debt or equity. Hence, profitability is expected to affect debt financing negatively, indicating the support of pecking order theory (Gokten & Kucukkocaoglu, 2018).

Volatility

Firms with volatile cash flows experience higher expected costs of financial distress, and the debt-related agency costs are also more pronounced with increasing volatility. more volatile cash flows reduce the probability that the tax shield will be fully utilized. Therefore, the trade-off theory implies a negative relationship between leverage and the volatility of cash flows. In addition, the pecking order model also predicts a negative relationship between leverage and cash flow volatility (Baker & Martin, 2011)

Earning volatility is commonly translated as business risk of firms well. Higher earnings volatility may increase the risk of default on debt payments. Therefore, debt financing should be avoided, indicating a negative relationship (Gokten & Kucukkocaoglu, 2018)

Table 1 – Relationship between capital structure factors and theories

Factor	Trade-Off Theory	Pecking Order Theory
Tangibility	+	–
Firm size	+	–
Growth opportunities	–	+/–
Profitability	+	–
Volatility	–	–

Source - Capital Structure and Corporate Financing Decisions

Age of a Firm

Based on trade off considerations, it may be argued that as the firm matures, its debt capacity increases implying a positive impact on leverage. However, it may also be argued that as the firm matures it builds reputation leading to better access to equity markets. The latter view implies that age should be negatively related to leverage and is consistent with pecking order theory. Thus, in the case of age the sign on the estimated coefficient distinguishes between the tradeoff theory, when the sign is expected to be positive, and pecking order considerations, when a negative sign is expected (Woldie & Murinde, 2003). Age plays a significant role on firms‟ ability to acquire debt. Older firms are deemed to be more stable and thus more reputable due to their ability to survive over a longer period of time. Therefore, the prediction is that older firms will have more long-term debt in their capital structures (University of Pertoria, 2008).

A new firm will not have time to retain funds and may be forced to borrow. Consequently, age is likely to be negatively related to debt financing. The older the firm is, the more it is able to accumulate funds and the less it will need to borrow either long-term or short term (Gokten & Kucukkocaoglu, 2018).

Liquidity

Firm liquidity is represented by current asset to current liability (Gokten & Kucukkocaoglu, 2018). The trade-off theory suggests a positive relationship between liquidity and leverage, due to the fact that the trade-off theory proposes that firms with higher liquidity ratios should borrow more in order to be able to meet their current contractual obligations when it is due. On the other hands, both pecking order and agency cost theories suggest a negative relationship between liquidity and leverage, as firms with higher liquidity prefers to use internal sources of finance (i.e. retained earnings) while financing its new investments (in regard to the pecking order theory). Additionally, the agency cost theory justifies the negative relation by the potential conflict between shareholders and debt holders (Sakr & Bedeir, 2019). Pecking order theory suggests more liquid firms are in possession of higher internal funds that can be used first to finance investments (Narmandakh, 2014).

When a firm is said to be liquid, the internal funds will be quite substantial, thus the need for debt financing will be lessen. This is explained well by pecking order theory that firms with high liquidity need less debt financing and opt to internal finding given the huge retained earnings of the firm. This reflects a negative relationship between liquidity and debt financing. (Gokten & Kucukkocaoglu, 2018).

Macroeconomic Factors

The pecking order theory also predicts a negative relationship between leverage and economic growth. Internal funds increase during economic booms, making firms less dependent on external debt. In the dynamic trade-off theory, firms adjust their debt ratio towards the target debt ratio if shocks have led to deviations from the optimum. The speed of adjustment is also dependent on macroeconomic conditions (Baker & Martin, 2011)

Inflation

Inflation reduces the purchasing power of each unit of currency, which leads to increases in the prices of goods and services over time. It's an economics term that means you have to spend more to fill your gas tank, buy a gallon of milk, or get a haircut. In other words, it increases your cost of living (Amadeo, 2020). At low inflation rates an increased rate of inflation would tend to increase capital cost, whereas capital cost would be decreased at high rates of inflation by further increases. (Söders ten & Bergström, 1997)

Leverage

Leverage refers to the employment of assets or sources of fund bearing fixed payment to magnify EBIT or EPS respectively. Types of leverage includes operating leverage which is concerned with the investment activities of the firm. It relates to the incurrence of fixed operating costs in the firm’s income stream; financial leverage is known as trading on equity by which company's return on investment is more than interest on loan. At this time, if company needs more money, then the company gets its loan and bought the asset from same loan. So, any technique in which any asset is purchased with loan and trying to increase EPS, then this is called financial leverage. Finally, combined leverage is the product of operating leverage and financial leverage (Anilkumar, 2019).

Financial leverage is the extent to which fixed-income securities and preferred stock are used in a company's capital structure. The use of financial leverage also has value when the assets that are purchased with the debt capital earn more than the cost of the debt that was used to finance them. if the company does not have sufficient taxable income to shield, or if its operating profits are below a critical value, financial leverage will reduce equity value and thus reduce the value of the company (Adkins, 2021). Leverage and capital structure are two items that link to a company's operations, with financial figures related to the items on the company's balance sheet. Leverage represents monies paid for fixed assets, which are items that cost a great deal of money but are necessary to produce goods and services. Common types of funds for fixed assets often include bonds issued by the company and debt from bank loans. The connection between leverage and capital structure is that companies use a mix of debt and equity finance for operations, with stakeholders interested in how a company manages its business (Vitez, 2021).

2.2 Empirical Review

Various empirical studies have been done on determinates of capital structure decisions this is due capital structure decisions is one of the basic financial decisions that affect the whole firm's financial performance.

2.2.1 Empirical Review from Developed countries

A study entitled "The Determinants of Capital Structure: Evidence from the Turkish Manufacturing Sector" done by Acaravci (2015), investigated the determinants of capital structure in Turkey by using panel data methods from 1993 to 2010 for 79 firms in the manufacturing sector traded on the Istanbul Stock Exchange. The study shows that growth opportunities, size, profitability, tangibility and non-debt tax shields were used as the firm-specific variables that affect a firm's capital structure decision. As a result, growth opportunity had effect on capital structure that supports the trade-off theory. Size, profitability and tangibility had effects and support the pecking order theory. Particularly, profitability and growth opportunity variables had more significant effects than other variables on leverage for all sectors.

2.2.2 Empirical Review from Developing countries

According to Abor (2008), a study on "Determinants of the Capital Structure of Ghanaian Firms" conducted in Ghana has investigated the capital structures of publicly quoted firms, large unquoted firms, and small and medium enterprises (SMEs). This paper examines the determinants of capital structure decisions among the three sample groups using panel regression model. The results show that quoted and large unquoted firms exhibit significantly higher debt ratios than do SMEs. There was no significant difference between the capital structures of publicly quoted firms and large unquoted firms. The regression results indicate that age of the firm, size of the firm, asset structure, profitability, risk and managerial ownership are important in influencing the capital structure decisions of Ghanaian firms. For the SME sample, it was found that factors such as the gender of the entrepreneur, export status, industry, location of the firm and form of business are also important in explaining the capital structure choice.

A study done by Ihiga (2016) entitled "Determinants of capital structure in the Kenyan mobile telecommunication companies" with the objective to establish the determinants of capital structure in the Kenyan mobile telecommunication industry. The secondary data was used over 8 years from 2009 to 2015 for 4 telecommunication companies with descriptive research design. The study founded that 80.4% changes on capital structure of telecommunication firms could be accounted for by changes in firm size, asset tangibility, firm growth, profitability and earning volatility. This result was derived using multiple regression analysis. It was concluded that firm size, asset tangibility, firm growth, profitability and earning volatility significantly affects capital structure of telecommunication firms in Kenya. Firm size, asset tangibility and firm growth positively influence the capital structure of telecommunication firms, whereas profitability and earning volatility were founded to negatively affect the capital structure of telecommunication firms.

2.2.3 Empirical Review from Ethiopia

According to Kebede (2011), proposed a study that investigated the determinants of capital structure for Small Scale Manufacturing Co-operatives (SSMCs) in Ethiopia. The findings indicate that size, age, tangibility, and growth variables are the most important determinants of capital structure of SSMCs in Ethiopia. It also reveals that all firm specific variables except earnings volatility variable seem to have an effect on the level of leverage in Ethiopian SSMCs. As a result,

the study concludes that the dominant capital structure theories (trade-off, pecking order, and agency theories) appear indeed to be valid for Ethiopian SSMCs' capital structure. To capture this result, a panel data was involving an explanatory research design collected with a structured record review, which include 13 SSMCs year observations of five years over the period 1998 – 2002 E.C.

Another study by Mekonnen (2011), tried to examine the relevance of theoretical internal (firm level) factors to determine the capital structure of manufacturing share companies in Addis Ababa, Ethiopia. This study used stratified sampling design to obtain a sample of 12 manufacturing share companies and secondary data was used from audited financial statements of selected companies for the period of five years (1996- 2002EC). Seven explanatory variables were regressed against the dependent variables of total debt ratio, short term ratio and long-term debt ratio which are tangibility, non-tax shields, growth, earning volatility, profitability, age and size of the firm. Multivariate OLS regression was used to analyze the collected data in a quantitative approach. The results show that tangibility, non-debt tax shields, earning volatility, profitability, and size of the firm variables are the significant determinants of capital structure of Addis Ababa manufacturing share companies. While no clear and statistical proven relation are obtained for the variable's growth of the firm and age of the firm in any of the capital structure models.

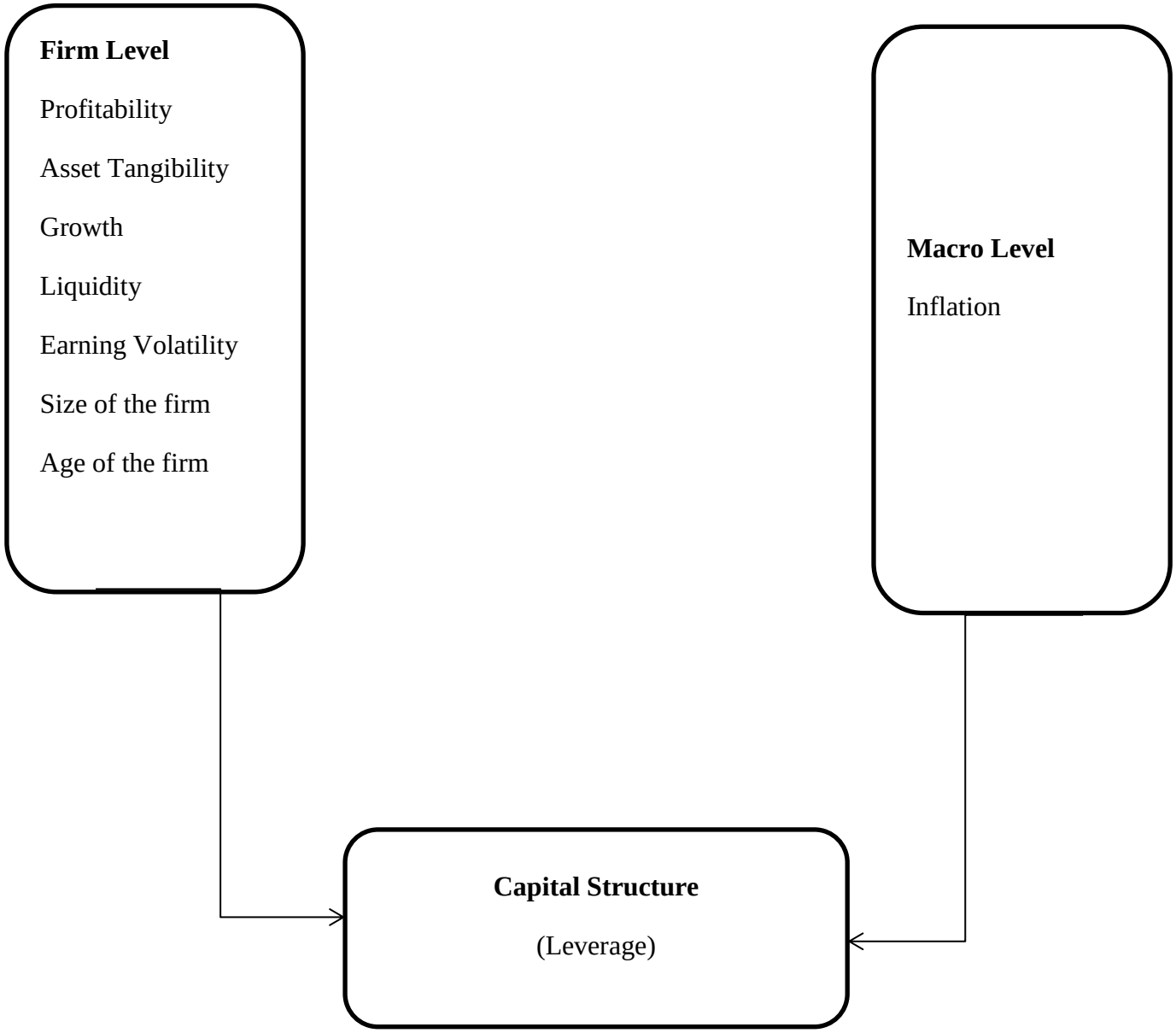
A study done by Belay (2012), intends to examine the determinants of capital structure of construction companies. The study used a quantitative research approach and a panel data was collected from 11 randomly selected construction companies, covering the period from 2006 to 2010 was used. The finding reveals that the variables including growth opportunity, tangibility, and non-debt tax shield positively affect the variations on the capital structure of construction companies. Profitability of the companies, size, earning volatility, liquidity and age, on the other hand, inversely affect their capital structure. As a result, it was concluded that, growth opportunity, tangibility of assets, liquidity and age of the companies were found as significant variables that explains the variations of the capital structure of construction companies.

According to Kinfe (2018), research entitled the Determinants of capital structure in Ethiopian private manufacturing sector. This study investigates the determinants using 112 Ethiopian private manufacturing companies with 10 years of panel data. To capture the numerical result a regression model was in used which leads to finding that Age, Profitability, Tangibility, Growth, Liquidity

and Non-debt tax shield are statistically significant in affecting the capital structure of Ethiopian private manufacturing sector. However, size and earning volatility are statistically insignificant. In addition, sub-sector classifications were regressed in the independent variable as dummy variables to examine the stability and variability of the regression coefficients across sub sectors.

According to the above studies, the research gap indicates that the various researches that had been done on the determinants of capital structure where focused either on local manufacturing companies or on other sectors. According to Kebede (2011), a study was proposed that investigated the determinants of capital structure focusing on Small Scale Manufacturing Co-operatives in Ethiopia using the major variables. Another researcher Kinfe (2018), did a study focusing on only private owned manufacturing companies while investigating the determinants of capital structure. While Mekonnen (2011), tried to examine the relevance of theoretical firm level factors to determine the capital structure of manufacturing share companies in Addis Ababa, Ethiopia. According to Belay (2012), the study intended to examine the determinants of capital structure only on the construction companies located in Ethiopia. Therefore, this study will fill the research gap by classifying the manufacturing companies into local and foreign owned. And mainly focusing on the foreign owned manufacturing companies to investigate the determinants of capital structure in Ethiopia.

2.3 Conceptual Framework



Chapter - Three

3. Research Methodology

3.1 Introduction

This chapter describes the methods and approaches to be used in carrying out the research. It includes the research approach, design and methods which structures the study. It also presents the population together with the sampling technique and sample size to be considered for this study. In addition, this chapter outlines the data collection approach and instruments as well as the approach for analyzing the data.

3.2 Research Approach

Quantitative research is a data based on the measurement of quantity described in terms of one or more quantities that are a set of numbers using statistical or mathematical analysis and the results are often presented in tables and graphs, whereas qualitative data is concerned with quality which is used to understand the meaning of the numbers that we obtain from quantitative research (Locharoenrat, 2017).

By using both quantitative and qualitative methods will attempt to offset each other's strengths and weaknesses or mix methods to answer a research question or questions by all means available. Mixed methods designs can provide deeper exploration of causal mechanisms, interpretation of variables, and contextual factors that may mediate or moderate the topic of study. This approach can also foster a deeper understanding of the phenomenon of interest (Oxford University Press, 2016).

As for qualitative approach, it is basically concerned with subjective assessment of attitudes, opinions and behavior. It is a function of researcher's insights and impressions by which it generates results either in non-quantitative form or in the form which are not subjected to rigorous quantitative analysis. Whereas quantitative approach involves the generation of data in quantitative

form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion (Kothari, 2004)

This study used a mixed research approach to discuss from both perspectives of subjectivity and quantifiable data. This triangulation will be advantageous to capture a result which is all rounded by offsetting the weakness of only using one approach.

3.3 Research Design

This research used explanatory type of research design to discuss about the determinates of capital structure in detailed manner. Explanatory research is conducted in order to help us find the problem that was not studied before in-depth. It is not used to give some conclusive evidence but helps to understand the problem efficiently. This research design helps is to increase the understanding of a researcher on a certain subject. It does not provide conclusive results because of the lack of its statistical strength, but it makes the researcher determine how and why things happen (Yousaf, 2019).

Explanatory research, also known as Causal research is conducted in order to identify the extent and nature of cause-and-effect relationships. Causal research can be conducted in order to assess impacts of specific changes on various processes etc. Causal studies focus on an analysis of a situation or a specific problem to explain the patterns of relationships between variables. (Dudovskiy, 2012)

Since the objective of the study is to explain the determinates of capital structure decisions an explanatory research design is a best fit to capture the valid representation of the research questions to be investigated.

3.4 Population and Sampling

Population consists of any well-defined set of elements (Adams et al., 2007). The target population of this study consists of foreign owned manufacturing companies in Addis Ababa, Ethiopia

Selection of only few items from population mostly occurs when field studies are undertaken in practical life, considerations of time and cost almost invariably lead to a selection of respondent.

The respondents selected should be as representative of the total population as possible in order to produce a miniature cross-section (Kothari, 2004).

From the data collected from ERCA (Ethiopian revenue and custom Authority) there are 157 large scale manufacturing companies in Ethiopia out of that the researcher selected 55 manufacturing companies by using purposive sampling method by using criteria of foreign owned manufacturing companies after that a stratified sampling technique was used depending on the size and goodwill of the foreign owned manufacturing companies, the researcher has divided them into strata. And a sample was drawn from each stratum using a simple random sampling method.

If the population from which a sample is to be drawn does not constitute a homogeneous group, then stratified sampling technique is applied so as to obtain a representative sample. In this technique, the population is stratified into a number of non over lapping subpopulations or strata and sample items are selected from each stratum. If the items selected from each stratum is based on simple random sampling the entire procedure, first stratification and then simple random sampling, is known as stratified random sampling (Kothari, 2004)

3.5 Source of Data and Data Collection Instruments

This study used only secondary data source. The secondary data was directly collected from the thirteen companies. A panel data of five-year audited financial statements of the thirteen foreign owned manufacturing companies from 2015-2019 was collected.

A longitudinal, or panel, data set is one that follows a given sample of individuals over time, and thus provides multiple observations on each individual in the sample. Panel data usually give the researcher a large number of data points, increasing the degrees of freedom and reducing the collinearity among explanatory variables, hence improving the efficiency of econometric estimates. More importantly, longitudinal data allow a researcher to analyze a number of important economic questions that cannot be addressed using cross-sectional or time series data sets (Hsiao, 2003). And a secondary data is a data that was not collected with the researcher's purpose an objective in mind by has been collected for other purpose (Greener, 2008).

To further explain the result journal articles, books, master's thesis, and materials from different internet sites have been used as a supportive source of data.

3.6 Data Analysis

This research used statistical software (Stata) to analyze the data, which enables to generate visualizations of data and proved a statistical analysis as well as summary of the statistics. According to Wikipedia, Stata is a general-purpose statistical software package created in 1985 by Stata Corp.

Stata is the most frequently used software packages in statistics. This program is complete, integrated statistics packages that allow for data analysis, data management, and graphics (Stockemer, 2019).

3.7 Variable definition and Hypothesis

The study consists of nine variables, i.e.one dependent variable (leverage) and eight independent variables (Profitability, Tangibility of assets, Growth, Liquidity, Earning Volatility, Size, Inflation rate and age of the firm).

3.7.1 Dependent Variable

3.7.1.1 Leverage

Companies that use more debt than equity to finance their assets and fund operating activities have a high leverage ratio and an aggressive capital structure. A company that pays for assets with more equity than debt has a low leverage ratio and a conservative capital structure (Tuovila, 2020.)

Capital structure describes the amount of debt a company uses as opposed to equity, and it is often measured with the ratio of debt to equity (Barstow, 2019). The study used debt ratio to measure the capital structure of the company.

$$\text{Leverage} = \frac{Total\ Debt}{Total\ Asset}$$

The debt ratio is a financial ratio that measures the extent of a company's leverage. The debt ratio is defined as the ratio of total debt to total assets, expressed as a decimal or percentage. It can be interpreted as the proportion of a company's assets that are financed by debt (Hayes, 2020)

3.7.2 Independent variables

3.7.2.1 Profitability

Accounting tools define Profitability as a situation in which an entity is generating a profit. Profitability arises when the aggregate amount of revenue is greater than the aggregate amount of expenses in a reporting period (Bragg, 2020).

This study used Return on Asset (ROA) to measure profitability of a company

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

The trade-off theory, bankruptcy costs, taxes, and agency costs push more profitable firms towards higher leverage. In sharp contrast, the pecking order model predicts that higher earnings should result in less leverage. Accordingly, a negative relationship between leverage and profitability would be a strong support for the pecking order theory (Baker & Martin, 2011).

Hypothesis 1: There is a positive relationship between profitability and leverage

3.7.2.2 Asset Tangibility

A tangible asset is an asset that has a finite monetary value and usually a physical form (Kenton, 2020). This research used the ratio of tangible assets to the total asset to show the percentage of tangible asset to the total asset

$$\text{Tangibility}=\frac{Tangible\ Asset}{Total\ Asset}$$

The static Trade-off theory and Agency Cost theory postulates that there is a positive relationship between the leverage ratio of a firm and its asset tangibility, while the Pecking Order theory postulates a negative relationship between leverage ratio and asset tangibility (Olakunle& Oni, 2014)

Hypothesis 2: There is a positive relationship between tangible asset and leverage

3.7.2.3 Growth

This research used one-year growth rate of net sales as a measurement of growth of a company, Researchers such as Dejan Malinić in 2013, used the same measurement to measure growth of a company.

$$\text{Growth}=\frac{Net\ sales_t - Net\ sales_{t-1}}{Net\ sales_{t-1}}$$

It signifies that there is a negative relationship between leverage and growth opportunities according to the trade-off theory. However, the pecking order suggests that there is a positive relationship between leverage and growth opportunities (Baker & Martin, 2011).

Hypothesis 3: There is a positive relationship between growth and leverage.

3.7.2.4 Liquidity

A liquid asset is one that trades in an active market and hence can be quickly converted to cash at the going market price (Chen, 2020), this study used current ratio to indicate the extent to which current liabilities are covered by those assets expected to be converted to cash in the near future.

$$\text{Liquidity}=\frac{Current\ Asset}{Current\ Liability}$$

The trade-off theory suggests a positive relationship between liquidity and leverage. On the other hands, both pecking order and agency cost theories suggest a negative relationship between liquidity and leverage (Sakr & Bedeir, 2019).

Hypothesis 4: There is a positive relationship between liquidity and leverage

3.7.2.5 Earning Volatility

Earnings volatility refers to how stable, or unstable, the earning of a company is (Ozyasar, 2019). This study used standard deviation of EBIT to measure the volatility of a company's earning.

The trade-off theory implies a negative relationship between leverage and the volatility of cash flows. In addition, the pecking order model also predicts a negative relationship between leverage and cash flow volatility (Baker & Martin, 2011)

Hypothesis 5: There is a negative relationship between earning volatility and leverage

3.7.2.6 Size

This study used total asset to measure the size of a firm. But due to a huge variation of total asset between different companies a direct competition will cause a violation of homoscedasticity assumption that suggests the variance of the errors is constant (Brooks, 2008). Therefore, the study used natural logarithm of total assets to measure the size of a company.

The trade-off theory predicts a positive relationship between size and leverage. However, the pecking order theory predicts a negative relationship between leverage and size (Baker & Martin, 2011).

Hypothesis 6: There is a positive relationship between size and leverage.

3.7.2.7 Age of the firm

The tradeoff theory considerations imply the age of the firm has a positive impact on leverage. However, latter view implies that age should be negatively related to leverage and is consistent with pecking order theory (Woldie & Murinde, 2003).

Hypothesis 8: There is a positive relationship between age of the firm and leverage

3.7.2.8 Inflation

One of macroeconomic factors that are important in determining leverage is inflation. Financial economists agree that inflation is a social ill that imposes welfare costs even at its anticipated level, inflation can cause distortions in the distribution of income and wealth (Assaf, 2014). This study used the inflation rate of Ethiopia ranging from 2015-2019 from world Bank.

Hypothesis 7: There is a negative relationship between inflation and leverage

Chapter Four

4. Result and Discussion

4.1 Descriptive Analysis

The aim of descriptive statistics is to describe a situation by summarizing information in a way that highlights the important numerical features of the data. Some of the information is lost as a result a good summary captures the essential aspects of the data and the most relevant ones (Antonius, 2003).

The table below (Table 1) describes the mean, the standard deviation as well as the minimum and maximum of all the dependent and independent variables, the mean of leverage which is measured by debt ratio in this case is 0.57 or 57% which is interpreted as in average foreign owned manufacturing companies finance 57% of their total asset by using debt, which means more than half of the total asset of foreign owned manufacturing (FOMCE) companies are financed by using debt and the standard deviation of the dependent variable is 0.23 which means the debt ratio of the samples deviates from the mean 57% by 23%.

The mean of one of the independent variables profitability which is measured by return on asset (ROA) is 0.008 or 0.8% which means in average the net income generated by using the total investment in asset by FOMCE is 0.08% since the return on assets ratio measures how effectively a company can earn a return on its investment in assets and the standard deviation of profitability is 0.14 of 14% which indicate the ROA of the sample deviates from the mean by 14%.

The next independent variable which is tangibility of asset has mean of 0.98 or 98% which indicates in average from the total assets of FOMCE 98% of its total asset covered by its tangible assets and the standard deviation of 0.02 or 2% which shows from tangibility of assets in FOMCE deviates from the mean of 98% by only 2%.

The other independent variable is growth of a company which is measured by one year growth rate of net sales, and has a mean of 0.74 which indicates in average the total sales of FOMCE grow by 74% compared to the previous year's sales, and the standard deviation of growth of FOMCE is 2.1 which indicate there is a high deviation from the mean of 0.74.

The mean of the next Independent variable Liquidity which is measured by current ratio is 1.59 meaning in average the current assets of FOMCE would pay its current liabilities 1.59 times and the standard deviation of FOMCE current ratio indicates 1.34 meaning the sample data deviates from the mean by 1.34. The other independent variable Earning Volatility which is measured by natural logarithm of standard deviation of Profit before tax has a mean of 17.84 meaning in average the risk of variation of earing is 17.84 or 55,955,651.64 birr. With the standard deviation of 1.04.

The next Independent variable size which is measured by natural logarithm of total assets has a mean of 20.25523 or 626,231,081.04 birr this means the average total asset of FOMCE is 626,231,081.04 birr with standard deviation of 1.29 the next and the last company level independent variable is age, which is measured by years from the start of company's establishment to the year of reporting and the average age of FOMCE is 19.89 with the standard deviation of 25.91 this shows a 25.91 years of deviation from the mean the sample includes very young newly established companies a well as old and experienced companies as well.

The last independent variable is Inflation rate which is macroeconomic factors that are important in determining leverage and its measured by annual inflation rate and in average the annual inflation rate is 11.304 with the standard deviation of 3.25.

Table 2. Descriptive Analysis

Variables	**Observation**	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
Leverage	65	0.5689231	0.2298037	0.1	0.99
Profitability	65	0.0087692	0.1452423	-0.35	0.28
Tangibility	65	0.9835385	0.0272965	0.87	1
Growth	65	0.7426154	2.109391	-0.48	16.5
Liquidity	65	1.599385	1.347994	0.26	6.44
Earning Volatility	65	17.84077	1.042214	16.17	19.94
Size	65	20.25523	1.291094	17.88	23.21
Age	65	19.89231	25.91641	0	89
Inflation	65	11.304	3.247722	6.63	15.81

Source: STATA output

4.2 Correlation Analysis

This section will discuss the correlation between the dependent variable (Leverage) and the other independent variables, and also the relationship in between the independent variable, the values of correlation coefficient vary from –1 to +1. Positive values of correlation coefficient indicate a tendency of one variable to increase or decrease together with another variable. Negative values of correlation coefficient indicate a tendency that the increase of values of one variable is associated with the decrease of values of the other variable and vice versa. Values of correlation coefficient close to zero indicate a low association between variables.

Accordingly, the table below revels that liquidity, profitability, tangibility and age have a negative relationship with leverage in FOMCE, while growth, earning volatility and size has a positive relationship with leverage whereas the macroeconomic indicator inflation has zero or no relationship with leverage of FOMCE.

When we come to the explanatory variables there is a positive relationship between Profitability and all the other independent variable with a significant relationship between profitability and liquidity of a company, there is also an evidence of multicollinearity (a problem that occurs when the explanatory variables are very highly correlated with each other). In between profitability and liquidity (0.49) and 0.89 in between size and earning volatility.

Table 3 Correlation Analysis

(Observation=65)	Leverage	Profitability	Tangibility	Growth	Liquidity	EV	Size	Age	Inflation
Leverage	1.0000								
Profitability	-0.5798	1.0000							
Tangibility	-1.1798	0.2332	1.0000						
Growth	0.0107	0.5830	0.0513	1.0000					
Liquidity	-0.7487	0.4904	0.1480	0.1039	1.0000				
Earning Volatility	0.1205	0.1064	0.1069	-0.1112	-0.0369	1.0000			
Size	0.1128	0.2000	0.0492	-0.2954	0.0381	0.8441	1.0000		
Age	0.1526	0.0693	0.1664	-0.1686	-0.1367	0.3654	0.2572	1.0000	
Inflation	0.0069	0.1220	-0.1402	-0.0966	0.0637	0.0000	0.2167	0.0465	1.0000

Source: STATA output

4.3. Stepwise Regression

Stepwise regression is where different combinations of explanatory variables are used in multiple regression analysis in an attempt to come up with the best model (Wooldridge, 2013). Stepwise regression shows the single partial effect of the key explanatory variables on the dependent variable.

As shown on table 4, profitability, growth, liquidity, size and age are the most significant explanatory variables, while tangibility, earning volatility and inflation have been omitted.

Table 4 Stepwise Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Profitability	-0.4843	0.1211	-4.00	0.000
Growth	0.1558	0.0074	2.08	0.041
Liquidity	-0.1309	0.1291	-8.76	0.000
Size	0.0557	0.01264	4.41	0.000
Age	-0.0024	0.0006	-4.07	0.000
Constant	-0.33767	0.2568	1.31	0.194
R-Squared	**0.7535**		**Prob(F-Statistic)**	**0.000**
Adjusted R-Squared	**0.7326**			
Number of Obs.	**65**			

Source STATA Output

4.4 Tests for CLRM Assumptions

4.4.1. Assumption One: The Errors Have Zero Mean (E (E) = 0)

According to Brooks (2008), the error term accounts for the variation in the dependent variable that the independent variables do not. If a constant term is included in the regression equation, this assumption will never be violated. Therefore, since the regression model used in this research includes a constant term, this assumption is not violated.

4.4.2. Assumption Two: Homoscedasticity (Variance of the Errors Is Constant (Var (E) = Σ2 < ∞))

The variance of the errors should be consistent for all observations. In other words, the variance does not change for each observation or for a range of observations. This preferred condition is known as homoscedasticity (same scatter). If the variance changes, we refer to that as heteroscedasticity (different scatter) if this happen it is said that assumption of homoscedasticity has been violated (Frost, 2019).

Breusch Pagan Test was introduced by Trevor Breusch and Adrian Pagan in 1979. It is used to test for heteroskedasticity in a linear regression model and assumes that the error terms are normally distributed. It tests whether the variance of the errors from a regression is dependent on the values of the independent variables.

Table 5 Breusch–Pagan Heteroscedasticity test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Profitability	-0.0111	0.0188	-0.59	0.556
Tangibility	0.0359	0.0879	0.41	0.684
Growth	-0.0009	0.0012	-0.81	0.423
Liquidity	0.0021	0.0019	1.08	0.287
Earning Volatility	0.0062	0.0048	1.29	0.204
Size	-0.0048	0.0040	-1.19	0.238
Age	0.0000	0.0000	0.99	0.325
Inflation	0.0007	0.0007	0.98	0.330
Constant	0.0495	0.0961	-0.52	0.308

R-Squared	**0.0928**	**Prob(F-Statistic)**	**0.6760**
Adjusted R-Squared	**-0.0367**		
Number of Obs	**65**		

The above table (Table5) describes by using the Breusch–Pagan test to check for heteroscedasticity the study regressed the squared error term to the independent variables, and since the probability greater than the F value is 0.67 which is more than 0.05 the regression is not significant meaning the independent variables are not explaining the error term. I.e., there is no heteroscedasticity problem.

4.4.3. Assumption Three: Covariance between the Error Terms over Time Is Zero (Cov (Ei, Ej) = 0 for I ≠ J)

One observation of the error term should not predict the next observation. For instance, if the error for one observation is positive and that systematically increases the probability that the following error is positive, that is a positive correlation. If the subsequent error is more likely to have the opposite sign, that is a negative correlation. This problem is known both as serial correlation and autocorrelation (Frost, 2019).

Table 6 Breusch–Godfrey Autocorrelation test

Source	SS	df	MS	Number of obs	=	63
				F(10, 52)	=	0.40
Model	.055383941	10	.005538394	Prob > F	=	0.9420
Residual	.724832935	52	.013939095	R-squared	=	0.0710
				Adj R-squared	=	-0.1077
Total	.780216876	62	.012584143	Root MSE	=	.11806

Table 7 Breusch–Godfrey Autocorrelation test

Breusch-Godfrey LM test for autocorrelation

lags(p)	chi2	df	Prob > chi2
2	0.708	2	0.7018

H0: no serial correlation

By using the Breusch–Godfrey to test for autocorrelation in the errors by making use of the residuals from the model, as showed in the above table (Table 6) by using two lags in the Breusch Godfrey test equation we have got an R-square of 0.07 that shows that we don't have autocorrelation problem in the data, the next table (Table 7) shows a the p value is 0.7018 which is greater than 0.05 therefore we accept the null hypothesis of there is no autocorrelation in the data.

4.4.4. Assumption Four: Covariance between the Error Terms and The Corresponding X Variate Is Zero (Cov (Et, Xt) = 0)

According to Brooks (2008), as long as assumption 1 holds, assumption 4 can be equivalently written E ($x_t u_t$) = 0. Both formulations imply that the regressor is orthogonal to (i.e., unrelated to) the error term. An alternative assumption to 4, which is slightly stronger, is that the xt are non-stochastic or fixed in repeated samples. This means that there is no sampling variation in xt, and that its value is determined outside the model.

4.4.5. Assumption Five: Normality (Errors are Normally Distributed (ET ~ N (0, Σ2)))

When we condition on the values of the independent variables in the sample, it is clear that the sampling distributions of the OLS estimators depend on the underlying distribution of the errors. To make the sampling distributions of the b ˆj tractable, we now assume that the unobserved error is normally distributed in the population. We call this the normality assumption (Wooldridge, 2013).

The normality assumption is required to make valid inferences about the population parameters (the actual α and β) from the sample parameters (α ˆ and β ˆ) estimated using a finite amount of data (Brooks, 2008).

The normality test helps to determine how likely it is for a random variable underlying the data set to be normally distributed. There are several normality tests such as the Skewness Kurtosis test, the Jarque Bera test, the Shapiro Wilk test, the Kolmogorov-Smirnov test, and the Chen-Shapiro test (Sajwan & Chetty, 2018) but this research will use the Skewness Kurtosis test and also show the result by using histogram.

Table 8 Skewness Kurtosis normality test

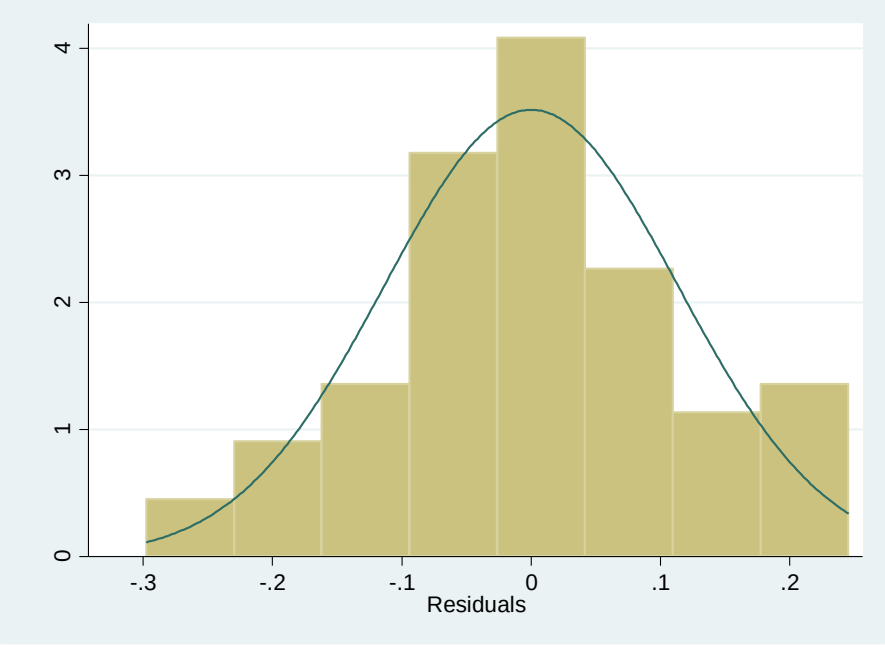
Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint adj chi2(2)	joint Prob>chi2
resid	65	0.8188	0.8048	0.11	0.9448

As showed in the above table (Table 8) The probability of skewness which is 0.8188 implying that skewness is asymptotically normally distributed (p-value of skewness > 0.05). Similarly, Pr (Kurtosis) indicates 0.8048 that kurtosis is also asymptotically distributed (p-value of kurtosis > 0.05). Finally, Prob>chi2 is 0.9448 which is greater than 0.05 implying its significance at a 5% level. Consequently, the null hypothesis cannot be rejected. Therefore, according to the Skewness test for normality, residuals show normal distribution.

A histogram plot also indicates the normality of residuals. A bell-shaped curve shows the normal distribution of the series.

Graph 1 histogram plot for normality test



Source: STATA output

As showed above on graph 1 a bell-shaped distribution of the residuals. X-axis shows the residuals, whereas Y-axis represents the density of the data set. Thus, this histogram plot confirms the normality test results from the above Skewness Kurtosis test.

4.5 Discussion of the Regression Results

Table 9 Regression result

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Profitability	-0.5057	0.1265	-4.00	0.000
Tangibility	0.2748	0.5899	0.47	0.643
Growth	0.1667	0.0081	2.05	0.045
Liquidity	-0.1139	0.0132	-8.63	0.000
Earning Volatility	-0.0117	0.3249	-0.36	0.720
Size	0.0625	0.2705	2.31	0.024
Age	-0.0024	0.0006	-3.66	0.001
Inflation	0.0031	0.0052	0.6	0.548
Constant	-0.5730	0.6444	-0.89	0.378
R-Squared	**0.7572**		**Prob(F-Statistic)**	**0.0000**
Adjusted R-Squared	**0.7225**			
Number of Obs	**65**			

Source; STATA output

The above table (Table 9) shows the results of the least squares regression between the dependent variable and the independent variables, According to Frost (2019), R-squared is a goodness-of-fit measure for linear regression models. This statistic indicates the percentage of the variance in the dependent variable that the independent variables explain collectively. R-squared measures the strength of the relationship between your model and the dependent variable on a convenient 0 – 100% scale. The R-squared of the above model is 0.757 of approximately 76% this means 76% of the variability in Leverage level of FOMCE is explained by the variability in the above independent variables, therefore we can say that the above independent variables have a good explanatory power on foreign owned manufacturing companies' capital structure decisions. The F value in the above regression 21.83 tells us how jointly the independent variables are significant in predicting the dependent variable leverage. Prob > F is 0.00001 which means the variables are statistically significant at all at all of the significant levels i.e., 0.1, 0.05 and 0.01. Meaning we are 99% confident that we can reject the null hypothesis that is the R-square is Zero. Based on the above reaeration the model of this research will be.

$$\textbf{Leverage}=\beta_0\textbf{-0.50prof+0.16growth-0.11liq+0.06size-0.002age+}\mu$$

4.5.1 Profitability

The Tradeoff Theory (TOT), suggest there is a positive relationship between a firm's profitability and leverage ratio and this is expected because taxes, agency costs and bankruptcy costs push more profitable firms towards higher leverage. Therefore, firms who earn More profit should prefer debt to benefit from the tax shield. Conversely, the Pecking Order theory (POT), predicted a negative relationship between firm's profitability and leverage. Accordingly, they argue that, since firms passively accumulate retained earnings, they becoming less levered when they are profitable, and accumulate debt, becoming more levered when they are unprofitable.

In this research paper the regression result suggests there is a negative relationship between firms Leverage which is measured by Debt ratio, and companies' profitability which is measured by return on asset supporting the pecking order theory, as presented on table 9 the random effect estimation result shows a negative relationship between the profitability of Foreign owned

manufacturing companies and their level of leverage, with a regression coefficient of -0.5 implying Keeping other Independent Variables constant when FOMCE return on asset increases by 0.1 the leverage will decrease by 0.5.

This result is not consistent with the hypothesis of the study, which was there is a positive relationship between Profitability and Leverage which was based on the tread of theory.

According to Frost (2019), The p-values help determine whether the relationships that you observe in your sample also exist in the larger population. The p-value for each independent variable tests the null hypothesis that the variable has no correlation with the dependent variable. Therefor the p-value of profitability on the above regression model is 0.0001 which makes profitability statistically significant and reject the null hypothesis that the independent variable profitability has no relation with the dependent variable leverage.

The result of this research is in consistent with many other researcher's conclusion such as (Andersson & Minnema, 2018), (Belay, 2012), (Solomon, 2019), and (Titman & Wessels, 1988) many others.

4.5.2 Tangibility of asset

On the issue of the effect of tangibility of the assets of the companies on their leverage ratio, the tradeoff theory suggests the existence of a positive relationship. This is because if companies have a large amount of fixed asset, it is believed that they will use those assets as a form of collateral to finance themselves with debt and therefore, companies with high ratio of fixed assets to total assets can raise debt financing with relatively least cost. This suggests there is a positive relationship between tangibility of assets and leverage ratio. On the other hand, the Pecking Order theory postulates a negative relationship between leverage ratio and asset tangibility (Olakunle & Oni, 2014).

As presented above in table 9 this research paper suggests that there is a positive relationship between Tangibility of assets which is measured by total fixed asset to total asset and leverage which is measured by the debt ratio, supporting the tread of theory mention above. The regression coefficient in accordance to table 9 in 0.27 meaning keeping other independent variables constant one unit change in total fixed asset to total asset ratio the debit ratio will increase in 0.27. But the

research result also suggests tangibility of asset in foreign owned manufacturing companies is not statistically in significant with a p-value of 0.64 meaning we accept the null hypothesis that the independent variable profitability has no relation with the dependent variable Leverage.

4.5.3 Growth

According to the pecking order theory which states that firm's first use internally generated fund to finance its projects from. However, growing firms may not able to finance all its growth by using the internally generated funds. Consequentially, the pecking order suggests firms with relatively high growth will tend to use short term debt financing, meaning firms with relatively higher growth having more leverage. Therefore, according to pecking order theory assumption growing firm requires high capital and internal funds are insufficient to meet requirements, and so firms use external borrowing. These results in an increase in level of leverage suggesting there is a positive relationship between leverage and growth on the other hand the Trade-Off Theory argues the existence of a negative relationship between growth opportunities and level of debt. According to this theory as companies with good opportunities for growth are encouraged to invest in high-risk projects so as to maximize shareholders' income in detriment to creditors. This will result a negative relation with leverage ratio (Myers, 1984).

According to the research regression on table 9, Growth of a company is statistically significant at 5%. With a p-value of 0.045 meaning we reject the null hypothesis that the independent variable growth has no relation with the dependent variable Leverage. The research also shows growth of a company which is measured by one year growth rate of net sales has a positive relation with leverage which is measured by debt ratio with a regression coefficient of 0.01 or 1% meaning keeping other independent variables constant as growth of FOMCE in Ethiopia increases by one unit the debt ratio (Leverage) of a FOMCE will increase by 1%. Suggesting FOMCE with consists growth are more financed by debt compered to moderately growing companies.

The results support the initial hypothesis of that Growth of a company is positively relate to Leverage the result also support the pecking order theory mentioned above. Other researchers such as (Belay, 2012), (Manos & Ah-Hen, 2003), (Nunes & Serrasqueiro, 2007), and (Mekonnen, 2011)

also empirically found significant positive relationship between growth opportunity and leverage ratio of the firms.

4.5.4 Liquidity

Theoretically the Pecking order theory suggests there is a negative relationship between liquidity and leverage of a company since in pecking order companies would use its internal funds in order to finance their activities on the other hand the Tradeoff theory proposes a positive relationship between liquidity and leverage ratio, suggesting that the more liquid firm would use external financing due to their ability of paying back liabilities and to get benefit of tax-shields.

In this research paper the regression result suggests there is a negative relationship between firms Leverage which is measured by Debt ratio, and companies' liquidity level which is measured by the current ratio, the result also supports the pecking order theory that suggest a negative relationship between leverage and liquidity, as presented on table 9 the random effect estimation result shows a negative relationship between the liquidity of Foreign owned manufacturing companies and their level of leverage, with a regression coefficient of -0.11 implying Keeping other Independent Variables constant when FOMCE current ratio increases by 0.1 the leverage level will decrease by 0.11.

The p-value of Liquidity on the above regression model is 0.0001 which makes liquidity statistically significant therefore we reject the null hypothesis that the independent variable liquidity has no relation with the dependent variable Leverage.

This result of the regressions is not consistent with the original hypothesis of the study, which was there is a positive relationship between liquidity and Leverage which was based on the tread of theory there for we reject the hypothesis. Consequently, this negative effect of Liquidity on leverage was also largely consistent with the empirical evidence of (Deesomsak, R. et al., 2004), and (Najjar & Petrov, 2011).

4.5.5 Earning Volatility

In the case of earning volatility both trade off theory and pecking order theory suggests a negative relationship between earnings volatility and level of leverage. Earning volatility is a signal for

financial distress and lending institutions lacks confidence to provide fund. As noted by (Baker & Martin, 2011). Firms with volatile cash flows experience higher expected costs of financial distress, and the debt-related agency costs are also more pronounced with increasing volatility. More volatile cash flows reduce the probability that the tax shield will be fully utilized. As a result, both trade of theory and pecking order theories predict a negative relationship between leverage and Earning Volatility.

The regression result of this study shows that there is insignificant negative relationship between earnings volatility and leverage ratio in foreign owned manufacturing companies in Ethiopia with a regression coefficient of -0.11, t-statistic of -0.36 and P-value of 0.72. Therefore, it is statistically insignificant from the result it can be conclude that the FOMCE with high earning volatility use less debt finance to finance their activates, we can also conclude that FOMCE with high earning volatility face a problem from financers in Ethiopia since earning volatility is a sign of financial distress.

4.5.6 Size of the firm

According to trade-off theory it suggests the leverage level increases as the firms' size increases because, large firms are more diversified and the exposure for distress cost for large firms is lower. It is also consistent with the agency theory. Which suggests that large firms have a reputation in debt markets and consequently face lower agency costs of debt (Frank & Goyal, 2009). On the other hand, the Pecking Order Theory suggested a there is a negative association between size of the firm and their leverage ratio. This is because of the fact that as the information asymmetry is less in larger companies, they are able issue shares, therefore it expected a negative relationship between size and level of debt.

Consequently, the research regression on table 9, suggests the size of a company is statistically significant with a p-value of 0.024 meaning we reject the null hypothesis that the independent variable size has no relation with the dependent variable leverage. The research also shows size of a company which is measured which is measured by natural logarithm of total asset has a positive relation with leverage which is measured by debt ratio with a regression coefficient of 0.06 or 6% meaning keeping other all the independent variables constant as size of FOMCE in Ethiopia

increases by one unit the debt ratio (Leverage) of a FOMCE will increase by 6%. Suggesting large FOMCE are financed by debt compered to small and medium companies.

The results of the regression also support the initial hypothesis of that size of a company is positively relate to Leverage the result also support the trade-off theory and agency theory mentioned above. And the finding of the research is inconsistent with the findings of Hovakimian et al. (2004); and Nguyen and Ramachandran (2006) who reported a positive correlation between the size of the firm and the total debt ratio.

4.5.7 Age of the firm

In the case of age of the firm the tradeoff theory suggests if firm operates for a long period of time, it establishes a reputation and its capacity to generate more debts from lenders will increase, thus, the tradeoff theory suggests age of the firm is positively related with leverage. On the other hand, pecking order theory, argues that when firm matures it builds reputation leading to better access to equity markets meaning that age of a company is negatively related to leverage.

Accordingly in this research paper the regression result suggests there is a negative relationship between firms Leverage which is measured by Debt ratio, and companies' age which is measured by the years from the date of establishment to the reporting date, the result also supports the pecking order theory that suggest a negative relationship between leverage and age of the firm, as presented on table 9 the random effect estimation result shows a negative relationship between the liquidity of Foreign owned manufacturing companies and their level of leverage, with a regression coefficient of -0.002 implying Keeping other Independent Variables constant when age of FOMCE increases by one year the leverage level will decrease by 0.002 or 0.2%.

According to this study the p-value of profitability on the above regression model is 0.001 which makes age of a company statistically significant and reject the null hypothesis that the independent variable profitability has no relation with the dependent variable leverage.

This result also suggests the regressions is inconsistent with the original hypothesis of the study, which was there is a negative relationship between age and leverage which was based on the pecking order theory therefor we reject the hypothesis. Consequently, this negative effect of age

of a company and on leverage was also largely consistent with the empirical evidence of (Kebede, 2011), (Ashenafi, 2005), and (Belay, 2012)

4.5.8 Inflation rate

This study was conducted by hypostasizing that there is a negative relationship between inflation rate and firms capital structure decision by putting in to account the relationship between inflation rate and interest rate i.e., if interest rate is low the economy grows and inflation increases and if interest rate is high the economy slows and inflation will decrease consequently if the inflation rate is high firms will use more of debt financing since the interest cost will be low and if the inflation rate is law firms will use less of leverage.

For the only macroeconomic factor regression result of this study shows that there is insignificant Positive relationship between Inflation rate and leverage ratio in foreign owned manufacturing companies in Ethiopia with a regression coefficient of 0.003, t-statistic of 0.60 and P-value of 0.54. Therefore, it is statistically insignificant but from the result it can be conclude that the FOMCE will use high leverage if the inflation rate is high.

4.5.9 Expected and Actual Signs

Table 10 Expected and Actual Signs

Dependent variables	***Hypothesis set***	***Actual result***	***Statistically Significance***
Profitability	Positive	Negative	Significant
Tangibility of asset	Positive	Positive	Insignificant
Growth	Positive	Positive	Significant
Liquidity	Positive	Negative	Significant
Earning Volatility	Negative	Negative	Insignificant
Size of a firm	Positive	Positive	Significant
Age	Positive	Negative	Significant
Inflation rate	Negative	Positive	Insignificant

Chapter Five

5. Summary, Conclusions and Recommendations

This chapter presents the summary of major findings, conclusions and recommendations based on the findings of the study. Accordingly, this chapter is organized into three sub-sections. Section 5.1 presents the summary of major findings, section 5.2 presents the conclusions and section 5.3 presents the recommendations.

5.1 Summary of major Findings

The main objective of this study was to investigate most important determinants of foreign owned manufacturing companies' capital structure decision according to the regression result which incorporates one dependent and eight independent variables, major findings are captured that are presented as follows.

- The random effect estimation result shows a negative relationship between the profitability of foreign owned manufacturing companies and their level of leverage, with a regression coefficient of -0.5 implying keeping other independent variables constant when FOMCE return on asset increases by 0.1 the leverage will decrease by 0.5.
- The regression coefficient for tangibility of asset in accordance to table 9 is 0.27 meaning keeping other independent variables constant one unit change in total fixed asset to total asset ratio the debit ratio will increase in 0.27. But the research result also suggests tangibility of asset in foreign owned manufacturing companies is not statistically in significant with a p-value of 0.64.
- According to the result of the regression growth of a company, it is statistically significant at 5% with a p-value of 0.045. The research also shows growth of a company has a positive relation with leverage with a regression coefficient of 0.01 or 1% meaning keeping other independent variables constant as growth of FOMCE in Ethiopia increases by one unit the debt ratio (Leverage) of a FOMCE will increase by 1%.
- The regression result suggests there is a negative relationship between firms Leverage and companies' liquidity level the random effect estimation result shows a negative relationship between the liquidity of Foreign owned manufacturing companies and their level of

leverage, with a regression coefficient of -0.11 implying Keeping other Independent Variables constant when FOMCE current ratio increases by 0.1 the leverage level will decrease by 0.11. With p-value of 0.0001 which makes liquidity statistically significant.

- Based on the regression result of this study, there is insignificant negative relationship between earnings volatility and leverage ratio in foreign owned manufacturing companies in Ethiopia with a regression coefficient of -0.11, t-statistic of -0.36 and P-value of 0.72.
- The size of a company according to the regression result suggests that it is statistically significant with a p-value of 0.024. The research also shows that size of a company has a positive relation with leverage having a regression coefficient of 0.06 or 6% meaning keeping all the independent variables constant as size of FOMCE in Ethiopia increases by one unit the debt ratio (Leverage) of a FOMCE will increase by 6%.
- According to the result, there is a negative relationship between firms leverage and companies' age the random effect estimation result shows a negative relationship between the liquidity of foreign owned manufacturing companies and their level of leverage, with a regression coefficient of -0.002 implying keeping other independent variables constant when age of FOMCE increases by one year the leverage level will decrease by 0.002 or 0.2%. According to this study the p-value of profitability on the above regression model is 0.001 which makes age of a company statistically significant
- For the only macroeconomic factor regression result of this study shows that there is insignificant positive relationship between Inflation rate and leverage ratio in foreign owned manufacturing companies in Ethiopia with a regression coefficient of 0.003, t-statistic of 0.60 and P-value of 0.54.

5.2 Conclusion

The study of capital structure attempts to explain how firms utilize the mix of various forms of securities in order to finance investment. Modigliani and Miller demonstrated that capital structure is irrelevant under certain restrictive assumptions. Ever since then, many researchers have approached the study of corporate capital structure under less restrictive assumptions. This has led to the confirmation of an existence of the optimal choice of capital structure (University of Pertoria, 2008).

This paper examines the determinants of capital structure choice of FOMC in Ethiopia by using leverage which is measured by debt ratio as a dependent variable and profitability, asset tangibility, liquidity, earning volatility, growth, size age and macroeconomic factor which measured by inflation rate. Therefore, the empirical findings on the determinants of capital structure of foreign owned manufacturing companies in Ethiopia for the sample suggested the following conclusions

- From the study profitability of a company is statistically significant and affect leverage of a company negatively which support the pecking order theory but differ from the initial hypothesis that suggests there is a positive relation between leverage and profitability which was based on the tread of theory. Thus, from the result of it can be concluded that highly profitable foreign owned manufacturing companies are more likely to relay on internally generated funds and equity capital than debt capital as the source of financing.

- The study also shows there is an insignificant but positive relationship between Tangibility of asset which is measured by total tangible asset to total asset and the leverage of a company which support the trade of theory and also in consistent with the initial hypothesis. But since the result is insignificant it implies that tangibility is not the major determinates of the leverage of foreign owned manufacturing companies in Ethiopia.

- The study also shows the relationship between growth of a company which is measured by one-year growth rate and leverage has a significant positive relationship which is consistent with the initial hypothesis which was based on the pecking order theory, thus the research concluded that highly growing foreign owned manufacturing companies in Ethiopia use more debt in order to finance their operation.

- The research paper also showed the earning volatility which is measured by natural logarithm standard deviation of profit tax has insignificant but positive relation with leverage foreign owned manufacturing companies in Ethiopia. But since the result showed is insignificant it implies that earning volatility is not the major determinates of the leverage of foreign owned manufacturing companies in Ethiopia.

- On the other hand, the study concluded there is a statistically significant and negative relation between Liquidity which is measured by current ratio and leverage of foreign owned manufacturing companies in Ethiopia, the result also supports the pecking order theory which suggests a negative relation between liquidity and leverage of a company but the results are not in consistence with the initial hypothesis that was based on the trade of theory that suggest a positive relation between leverage and liquidity thus we can conclude FOMCE with high current ratio will use a small amount of debt to finance their operation.

- Consistent with the trade of theory which suggests a positive relationship of leverage and size of a company this study showed there is a statistically significant positive relation between size of a company which is measure by natural logarithm of total asset and companies leverage in FOMCE, which is in consistent with the initial hypothesis. Thus, we can conclude large foreign owned manufacturing companies in Ethiopia use more debt to finance their operations than small FOMCE.

- The study also showed that is age which is measured by years from the year of establishment to the day of reporting has a significant and negative relationship with leverage which is in consistent with the pecking order theory as well as the initial hypothesis which suggested there is a negative relationship between age and leverage. Thus, we can conclude that as old age FOMCE use less leverage to finance their operation.

- The study showed Inflation rate which is the only macroeconomic explanatory variable has insignificant positive relation with the leverage for foreign owned manufacturing companies in Ethiopia. But since the result is insignificant it means Inflation rate of a country is not the major determinates of the leverage of foreign owned manufacturing companies in Ethiopia.

Overall, the finding of the study suggests that, profitability, growth, liquidity, age and size were important variables that influence foreign owned manufacturing companies' capital structure. On the other hand, the result showed of tangibility of asset, earning volatility and the macroeconomic indicator inflation were insignificant, it also showed that there is a negative relationship profitability, liquidity and age with companies leverage level and a positive relationship between

growth and size with companies leverage level for foreign owned manufacturing companies in Ethiopia.

5.3 Recommendation

On the basis of the findings of this study, the researcher has drawn the following recommendations.

- Financial statements of some of companies in the sample is inconsistent this will make it very difficult for anyone including managers, government or other parties who are interested in the company's financial reports for making decision. So, the researcher recommends that all financial statements must be consistent and any issues or problems that cause the inconsistency must be solved before its presented to the stakeholders.
- As per the finding of the study, profitability, growth, liquidity, age and size were important variables that influence foreign owned manufacturing companies' capital structure decision. Therefore, managers of this companies should consider the impact of these significant variables in determining their financing needs so as to maximize the value of the company and meet the overall goal of profit maximization.
- Local owned manufacturing companies who do not use financial analysis to make big financial decisions such as capital structure decision must use such kinds of researches as a reference, since foreign owned manufacturing companies use different financial analysis to make decisions such as capital structure.
- Lack of information is the major barrier on conducting capital structure research in foreign owned manufacturing companies. Government as well as the companies should develop a database since, researches like this may help to examine and identify additional variables that could determine the capital structure choice of Ethiopian Manufacturing sector. Thus, there is a need to develop validated databases to make more data become available in future.

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APPENDIX

Table 1. The Data

Leverage	Prof	Tang	Growth	Liquidity	EV	Size	Age	Inflation
0.56	0.11	1.00	16.50	3.10	17.08	17.88	2.00	9.57
0.58	0.09	0.97	2.49	1.20	17.08	18.88	3.00	6.63
0.72	-0.03	0.98	0.74	0.87	17.08	19.21	4.00	10.68
0.57	0.16	0.99	0.90	1.09	17.08	19.67	5.00	13.83
0.75	0.05	0.89	0.64	0.58	17.08	20.14	6.00	15.81
0.58	0.00	0.95	2.46	0.97	17.19	18.34	11.00	9.57
0.85	-0.08	0.96	0.12	0.38	17.19	19.20	12.00	6.63
0.69	-0.22	0.97	-0.30	0.44	17.19	19.41	13.00	10.68
0.81	-0.18	0.87	1.21	0.26	17.19	19.57	14.00	13.83
0.66	-0.23	0.87	-0.21	0.38	17.19	19.52	15.00	15.81
0.74	-0.28	0.98	2.11	1.24	16.17	18.63	1.00	9.57
0.60	-0.12	0.99	-0.41	1.19	16.17	19.15	2.00	6.63
0.80	-0.31	0.99	-0.48	0.43	16.17	18.95	3.00	10.68
0.82	-0.20	0.99	1.01	0.82	16.17	19.29	4.00	13.83
0.97	-0.18	0.99	0.38	0.57	16.17	19.16	5.00	15.81
0.67	0.07	1.00	0.26	0.72	19.52	21.99	56.00	9.57
0.69	0.07	1.00	0.15	0.61	19.52	22.27	57.00	6.63
0.44	0.06	1.00	0.25	1.03	19.52	22.29	58.00	10.68
0.55	0.09	1.00	0.26	1.19	19.52	22.60	59.00	13.83
0.72	0.06	1.00	0.22	0.79	19.52	23.09	60.00	15.81
0.74	-0.09	0.99	-0.27	1.45	17.73	18.67	2.00	9.57
0.69	-0.09	0.99	2.41	1.05	17.73	18.56	3.00	6.63
0.51	-0.02	1.00	0.80	1.75	17.73	19.24	4.00	10.68
0.49	0.14	1.00	1.06	2.07	17.73	19.84	5.00	13.83
0.38	0.09	0.97	0.26	2.67	17.73	20.14	6.00	15.81
0.21	-0.02	0.99	0.78	4.61	18.48	19.56	1.00	9.57
0.32	-0.01	1.00	0.11	2.22	18.48	19.67	2.00	6.63
0.43	0.04	1.00	2.16	1.52	18.48	19.92	3.00	10.68
0.50	0.11	1.00	0.91	1.42	18.48	20.57	4.00	13.83
0.47	0.21	0.99	0.49	1.42	18.48	20.85	5.00	15.81
0.49	0.22	1.00	0.27	1.04	16.94	19.13	20.00	9.57
0.53	0.25	1.00	0.05	1.15	16.94	19.41	21.00	6.63
0.49	0.23	1.00	-0.38	1.55	16.94	19.99	22.00	10.68
0.39	0.18	1.00	0.90	1.80	16.94	19.90	23.00	13.83
0.44	0.15	1.00	0.15	1.52	16.94	20.16	24.00	15.81
0.99	-0.17	1.00	0.00	0.28	18.07	19.87	0.00	9.57
0.89	-0.27	1.00	1.00	0.50	18.07	20.27	1.00	6.63
0.82	-0.16	1.00	1.70	0.54	18.07	20.34	2.00	10.68

0.43	-0.07	1.00	1.73	1.38	18.07	20.79	3.00	13.83
0.46	0.00	1.00	1.23	3.62	18.07	21.24	4.00	15.81
0.99	-0.04	0.95	0.00	0.47	19.94	23.11	1.00	9.57
0.85	-0.04	0.96	0.91	1.36	19.94	23.20	2.00	6.63
0.84	0.01	0.98	0.20	1.69	19.94	23.21	3.00	10.68
0.85	-0.02	0.99	-0.02	1.99	19.94	23.16	4.00	13.83
0.92	0.07	0.97	0.07	0.98	19.94	23.14	5.00	15.81
0.55	0.02	0.99	0.24	0.93	16.93	19.31	6.00	9.57
0.54	0.00	0.99	0.34	1.14	16.93	19.27	4.00	6.63
0.46	0.00	0.99	0.22	1.07	16.93	19.35	5.00	10.68
0.73	-0.10	0.99	-0.06	0.88	16.93	19.83	6.00	13.83
0.63	0.00	0.99	0.07	0.84	16.93	19.55	7.00	15.81
0.16	0.26	0.98	0.29	6.08	17.31	19.97	8.00	9.57
0.25	0.28	0.99	0.27	3.86	17.31	20.33	9.00	6.63
0.32	0.20	0.99	-0.01	2.64	17.31	20.52	10.00	10.68
0.14	0.17	0.99	-0.18	6.44	17.31	20.68	11.00	13.83
0.19	0.16	1.00	-0.03	4.97	17.31	20.84	12.00	15.81
0.10	0.00	0.96	0.04	4.25	18.07	20.26	42.00	9.57
0.21	0.05	0.97	0.89	2.05	18.07	20.45	43.00	6.63
0.26	0.01	0.97	0.02	2.01	18.07	20.47	44.00	10.68
0.31	0.09	0.98	0.39	2.00	18.07	20.81	45.00	13.83
0.21	0.10	0.98	0.26	3.10	18.07	20.81	46.00	15.81
0.28	0.09	1.00	0.15	1.64	18.50	20.30	85.00	9.57
0.60	-0.35	1.00	-0.40	0.51	18.50	20.04	86.00	6.63
0.64	-0.01	1.00	0.61	0.44	18.50	20.03	87.00	10.68
0.69	0.07	1.00	0.08	0.60	18.50	20.23	88.00	13.83
0.82	-0.10	1.00	0.26	0.60	18.50	20.36	89.00	15.81

Table 2 Descriptive Analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
leverage	65	.5689231	.2298037	.1	.99
prof	65	.0087692	.1452423	-.35	.28
tang	65	.9835385	.0272965	.87	1
growth	65	.7426154	2.109391	-.48	16.5
liquidity	65	1.599385	1.347994	.26	6.44
ev	65	17.84077	1.042214	16.17	19.94
size	65	20.25523	1.291094	17.88	23.21
age	65	19.89231	25.91641	0	89
inflation	65	11.304	3.247722	6.63	15.81

Table 3 Correlation Analysis

(obs=65)

	leverage	prof	tang	growth	liquid~y	ev	size	age	inflat~n
leverage	1.0000								
prof	-0.5798	1.0000							
tang	-0.1732	0.2332	1.0000						
growth	0.0107	0.0583	0.0513	1.0000					
liquidity	-0.7487	0.4904	0.1480	0.1039	1.0000				
ev	0.1205	0.1064	0.1069	-0.1112	-0.0369	1.0000			
size	0.1128	0.2000	0.0492	-0.2954	0.0381	0.8441	1.0000		
age	-0.1526	0.0693	0.1664	-0.1686	-0.1367	0.3654	0.2572	1.0000	
inflation	0.0069	0.1220	-0.1402	-0.0966	0.0637	0.0000	0.2167	0.0465	1.0000

Table 4 Breusch–Godfrey Autocorrelation test

Source	SS	df	MS	Number of obs	=	63
				F(10, 52)	=	0.40
Model	.055383941	10	.005538394	Prob > F	=	0.9420
Residual	.724832935	52	.013939095	R-squared	=	0.0710
				Adj R-squared	=	-0.1077
Total	.780216876	62	.012584143	Root MSE	=	.11806

Table 5 Breusch–Godfrey Autocorrelation test

Breusch-Godfrey LM test for autocorrelation

lags(p)	chi2	df	Prob > chi2
2	0.708	2	0.7018

H0: no serial correlation

Table 6 Stepwise Regression

Source	SS	df	MS	Number of obs	=	65
				F(5, 59)	=	36.08
Model	2.54679931	5	.509359863	Prob > F	=	0.0000
Residual	.833025426	59	.014119075	R-squared	=	0.7535
				Adj R-squared	=	0.7326
Total	3.37982474	64	.052809762	Root MSE	=	.11882

leverage	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
prof	-.484378	.1211407	-4.00	0.000	-.7267799	-.2419761
growth	.0155855	.0074783	2.08	0.041	.0006213	.0305496
liquidity	-.1130955	.0129136	-8.76	0.000	-.1389356	-.0872554
size	.0557526	.0126435	4.41	0.000	.0304529	.0810523
age	-.0024697	.0006062	-4.07	0.000	-.0036828	-.0012567
_cons	-.3376729	.2568945	-1.31	0.194	-.8517176	.1763718

Table 7 Breusch–Pagan Heteroscedasticity test

Source	SS	df	MS	Number of obs	=	65
				F(8, 56)	=	0.72
Model	.001868833	8	.000233604	Prob > F	=	0.6760
Residual	.018259547	56	.000326063	R-squared	=	0.0928
				Adj R-squared	=	-0.0367
Total	.02012838	64	.000314506	Root MSE	=	.01806

sls	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
prof	-.0111942	.0188808	-0.59	0.556	-.049017	.0266285
tang	.0359855	.0879923	0.41	0.684	-.1402843	.2122553
growth	-.0009788	.0012117	-0.81	0.423	-.0034062	.0014485
liquidity	.0021186	.0019704	1.08	0.287	-.0018285	.0060658
ev	.0062337	.0048469	1.29	0.204	-.0034759	.0159433
size	-.0048166	.0040358	-1.19	0.238	-.0129014	.0032682
age	.0000984	.0000991	0.99	0.325	-.0001002	.000297
inflation	.0007627	.0007758	0.98	0.330	-.0007915	.0023169
_cons	-.0495614	.0961202	-0.52	0.608	-.2421134	.1429906

Table 8 Regression result

Source	SS	df	MS	Number of obs	=	65
				F(8, 56)	=	21.83
Model	2.55905771	8	.319882214	Prob > F	=	0.0000
Residual	.820767032	56	.014656554	R-squared	=	0.7572
				Adj R-squared	=	0.7225
Total	3.37982474	64	.052809762	Root MSE	=	.12106

leverage	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
prof	-.5057292	.1265858	-4.00	0.000	-.759311	-.2521474
tang	.2748223	.5899425	0.47	0.643	-.9069745	1.456619
growth	.0166792	.0081239	2.05	0.045	.000405	.0329533
liquidity	-.1139415	.0132104	-8.63	0.000	-.1404052	-.0874779
ev	-.0117185	.0324963	-0.36	0.720	-.0768164	.0533793
size	.0625993	.0270582	2.31	0.024	.0083951	.1168035
age	-.0024345	.0006647	-3.66	0.001	-.003766	-.001103
inflation	.0031403	.0052015	0.60	0.548	-.0072796	.0135602
_cons	-.5730572	.644436	-0.89	0.378	-1.864018	.7179034