

# Factors Affecting Capital Structure Decisions of Banks: A Systematic Literature Review Evidence from Commercial Banks of Ethiopia

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**Abstract:** The study intends to examine the literature on factors influencing capital structure decisions of commercial banks in Ethiopia in order to identify existing gaps and the degree of existing research in the subject, as well as to provide direction for future research. Due to a lack of studies for the stated review and access to the known database, the review was conducted utilizing eleven relevant and available scholarly papers that were published in any time period, primarily using open search engines and databases. To identify the articles, various key words were employed. The PRISMA framework was used to analyze the capital structure decisions study work. The review protocol outlined the inclusion and exclusion criteria. The descriptive analysis was performed based on different parameters to arrive at conclusions. The findings revealed that most of the variables of interest explored in the studies contradicted each other and the previous literature variables. The capital structure studies were conducted by considering few variables, and most of the studies were not cited. The findings regarding the theories supported by factors affecting the capital structure decisions of commercial banks in Ethiopia were contradictory and not justified. The banking literature still doesn't cover the capital structure of banks very much. There is currently a lack of clarity regarding how banks determine their capital structure and what variables affect their corporate financing behavior. Therefore, it is recommended that the concerned body conduct an in-depth study of the decisions banks make about their capital structure by identifying pertinent elements.

**Keywords:** Capital Structure, Banks, Ethiopia, Systematic Review, Trade off Theory, MM Theory, Agency Theory

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## 1. Introduction

The concept of capital structure determination is not an easy subject, as it determines the optimal capital structure of a firm. It remains a controversial issue in modern corporate finance. A firm can raise funds either through debt or equity, or a mixture of both [44, 49]. Capital structure is the combination of financing forms such as retained earnings, long-term debt, and equity used by a firm to finance its overall operations and assets. Capital structure has a bearing on the value of both large and small firms [36, 18].

A company's capital structure represents how the company raises the capital it needs to establish and expand its business. It is a combination of different types of equity and debt that a

company holds for its funding decisions. Most efforts in the financial decision-making process focus on determining the optimal capital structure. The firm's value is maximized, and capital costs are minimized. Similarly, Sharif & Muhammad also states that capital structure is considered one of the most important factors for an organization because it can affect the financial position of the company and the stakeholders' value. As the organizations try to maximize their benefits or profits, the managers are expected to choose the optimal level of debt and equity [46].

A number of studies have explored and explained the choice of a firm's capital structure both theoretically and empirically. To understand the problem of determining capital structure, it is essential to begin with MM's first

theory of capital structure in 1958.

Modigliani and Miller (1958) originally argued that in a perfect capital market, a firm's value is completely independent of its capital structure. Debt and equity financing are therefore perfect substitutes for each other [41]. Modigliani and Miller later found that the existence of taxes and information asymmetries lead to the choice of capital structure and greatly influenced the value of firms. Therefore, the choice of capital structure raises or lowers the value of a company. The right choices build an optimal capital structure that maximizes its value [4].

The foundation for theories and research focus on the subject of capital structure began with the introduction of Modigliani and Miller's (M&M) theoretical model of corporate capital structure in 1958, which is considered to have created the turning point for modern corporate finance theory.

In a dynamic and competitive world, the capital structure decision plays a crucial role in day to-day business performance and operations. The issue is still debatable for practitioners and academicians. After the MM theory, a number of theories have developed to explain the optimum capital structure, such as the static trade-off theory, agency cost theory, pecking order theory, the traditional approach, the net income approach, and the net operating approach. Though a lot of theories were developed following the MM theory, developing countries face challenges concerning capital structure issues.

The accessibility and proper implementation of the capital market and financial segments have a strong political, socioeconomic contribution, in addition to the backbones of economic growth, national development, and poverty reduction. However, in the absence of an appropriate capital market, economic development lags and firms are unable to optimize their capital structures. In Ethiopia, the financial sector is dominated by the public, which means the share capital is not free to international investors as part of privatization. Bases for preference of financial source alternatives for firms are limited in countries suffering from an absence of a secondary market to raise funds for the expansion of new as well as existing companies. Different firms may use various sources of financing options; the same is true for factors affecting the capital structure of commercial banks in Ethiopia [11].

The capital structure decision is at the center of many other decisions in the area of corporate finance. One of the many objectives of a corporate financial manager is to ensure a low cost of capital and thus maximize the wealth of shareholders. Hence, capital structure is one of the effective tools of management to manage the cost of capital. As a result, studying the determinants of capital structure should help companies make the optimal choice between debt and equity to achieve maximum enterprise value.

In the subject of corporate finance, theories developed by academics include the MM theory, trade-off theory, information asymmetry theory, pecking order theory, and agency cost theory. These theories primarily play a crucial

role in testing and identifying the various aspects of loan capital to equity decisions. Still, there are no consistent results on the determinants of capital structure decisions, which support the relevance of capital structure on the value of the firm, and another study concludes it does not have an effect on maximizing the value of the firm [11].

The capital structure of banks is still a relatively under-explored area in the banking literature. Currently, there is no clear understanding of how banks choose their capital structure and what factors influence their corporate financing behavior [10, 6].

Thus, in countries without a secondary market, the financing alternatives for corporate firms have become restricted or limited, and corporate finance practitioners, financial policymakers, and regulators have a crucial role to play in addressing the issue. According to Hacini, Mohammedi, & Dahou, the specific aspects that affect the capital structure of the enterprises are determined by the country characteristics. Additionally, the size of the impact of the capital structure determinants is controlled by the characteristics of the country. However, it is not always possible to determine the ideal capital structure for businesses in developing nations using the theories that explain the capital structure of organizations in developed nations [31].

In fact, a variety of issues could lead to financial restrictions in developing nations. Because there is more information asymmetry in developing nations than in developed countries, businesses are perceived to be taking on more risk [24]. In addition, financial markets in developing countries are less efficient, which prevents the firms from choosing the optimal capital structure.

Numerous studies have shown that the institutional framework, including the legal system, creditors' protection, financial system, fiscal system, and economic development, is one of the primary factors causing the disparities in capital structure between developed and developing countries [22, 30, 33].

In addition, Myers states that the theories on capital structure are based on certain circumstances [42]. Ethiopia differs from other developing countries in that it has no secondary capital market, which makes it easier for firms to raise funds and choose the best mix of debt and equity sources.

The capital structure issue has created a lot of debate in the field of corporate finance. The central question is whether there is an ideal level of leverage and, if so, what factors might influence it. While many studies have been conducted in developed nations, more are being conducted on this topic in developing nations. But very few studies have been conducted in Ethiopia on factors affecting the capital structure decisions up to this point. But, even though a number of studies were done both in developed and underdeveloped nations, to date in Ethiopia only 12 studies have been conducted on the capital structure decisions of commercial banks. The results of the studies conducted show inconsistent findings.

This review was challenged by the absence of scientific papers presenting the factors affecting the capital structure decisions of banks in Ethiopia. The lack of access to known database searches was also one of the other limitations of the review. This in turn creates limitations on adopting and using scientific procedures for systematic literature review. The scope of the review was limited to factors affecting the capital structure decisions of commercial banks in Ethiopia.

Hence, this review aims to present a systematic review of the literature on the factors affecting the capital structure decisions of commercial banks in Ethiopia. Thus, the initial challenge of this review is to identify relevant works and knowledge gaps, taking into account the various theoretical models and existing empirical studies. The final expectation is to identify new perspectives on this matter. Even if there aren't many research studies done in Ethiopia, all those that are done at any given time are taken into account to identify any gaps that still need to be addressed.

Therefore, the primary purpose of this systematic literature review is to analyze and summarize the variables influencing the capital structure choices of Ethiopian commercial banks. The review also intends to critically synthesize the elements that influence capital structure decisions in order to identify the gaps in existing knowledge and the level of existing research in the field and to provide guidance for future research. As a result, this systematic literature review investigates the variables that influence the capital structure choices made by commercial banks in Ethiopia. It is undertaken to synthesize data on the variables that influence these choices in order to narrow the gap and give direction for further study.

## 2. Methodology

To understand the focus of the review on the literature on capital structure decisions of commercial banks, a systematic review was conducted using relevant and available scholarly studies that were published in any time period because of the shortage of studies on the specified review. The reviewer has used systematic literature review methodology, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, to analyze the research work on capital structure decisions.

A systematic review is a tool used to summarize, appraise, and communicate the results and implications of a large quantity of research and information. It aims to provide an exhaustive summary of current literature relevant to the research question. The systematic review methodology is designed to reduce any unintended bias that may occur in the use of other review methodologies [19].

In the same manner, Webster and Watson state that a literature review aids theoretical advancement, highlights the domains with abundant research studies, and reveals the areas that necessitate future research [51]. It is also defined as a specific method of locating existing studies, selection and evaluation of contributions, analysis and synthesis of information, and evidence description to allow clear and

reliable conclusions about the subject under study [21].

Tranfield, Denyer, & Smart state that the reviewer defines the appropriate research sequences for the study. The seeking strategy is reported in sufficient detail to ensure the research is replicated [50]. The research result should be a complete list of papers on which the review is based. Only studies meeting all the inclusion criteria specified in the review protocol are incorporated. In order to do so, the review involves the following steps:

The first step is identifying and checking the strengths and weaknesses of each database.

On identifying and checking the strengths and weaknesses of the database, the reviewer faced challenges because the databases such as Scopus and Web of Science are not freely accessed, and other databases and search engines such as IEEE Computer Society ([www.computer.org](http://www.computer.org)), ISI Web of Knowledge ([apps.isiknowledge.com](http://apps.isiknowledge.com)), ACM Digital Library ([portal.acm.org](http://portal.acm.org)), and PubMed have no research articles related to the subject matter. Therefore, the absence of a well-established database for business and economics is one of the major challenges to doing this systematic literature review.

The second step is the published articles on the concept of capital structure decisions to be reviewed, which should be explored in the pertinent database.

Third, the obtained articles need to be categorized using some logical or rational codes. The mentioned categorization should then be used to create a framework for the idea.

Fourth, the major findings should be presented using the logical codes, and the observations generated from the framework.

The last and most crucial step is to identify research gaps in order to open up possibilities for future research projects.

In addition, in order to do this systematic review, the following set of inclusion criteria (IC) was defined to select those works that are relevant in the scope of the considered related work:

1. Inclusion Criteria 1: The systematic review focuses on factors affecting the capital structure decisions of commercial banks.
2. Inclusion Criteria 2: The location of the review delaminated to a commercial bank in Ethiopia.
3. Inclusion Criteria 3: The document is written in English.
4. Inclusion Criteria 4: Since there is an absence of a well-established database, the studies are searched from any open access open search engines and databases such as Google Scholar, JSTOR, Emerald, etc.
5. Inclusion Criteria 5: For the systematic review report, the publicly available and published in peer-reviewed journals, books, conferences or workshops OR theses are used as part of the peer-reviewed results.

Furthermore, the key words were used to identify the studies mainly conducted in Ethiopia on capital structure decisions of all firms. Based on the various key words, including capital structure, factors, Ethiopia, capital structure decisions, and determinants of capital structures, 42 studies

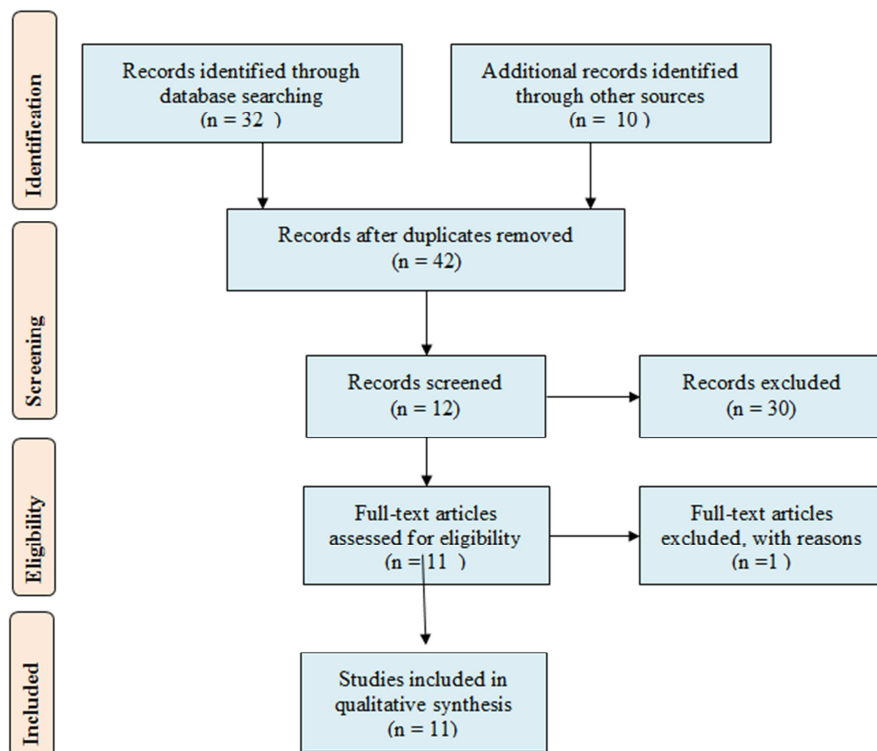
on capital structure decisions in Ethiopia were identified. 32 of those documents were identified through database searches, while an additional 10 studies were found in other records from various sources. After duplicates were removed, the total number of records was 42.

After searching for studies related to the capital structure decisions in Ethiopia, only 12 studies were identified on the factors affecting the capital structure decisions of commercial banks in Ethiopia. The remaining 30 studies were conducted on various organizations, such as manufacturing companies, MFIs, insurance companies, and the like, using Google Scholar, Google, and Research Gate search engines. As a result, at the screening stage, 30 studies were eliminated from the target review because they were unrelated and because

their focus and cases were outside the review's scope.

Since the evaluation mainly addresses the factors affecting the capital structure of commercial banks in Ethiopia, 12 studies that have been conducted on commercial banks in Ethiopia were chosen based on the eligibility quality assessment. One study among the 12 full-text studies that were evaluated for eligibility was removed from the review because it did not meet the criteria for this review's eligibility.

Finally, a final sample of eleven research papers from the search engines was derived based on the inclusion and exclusion criteria to conduct the classification and analysis (refer to Figure 1).



**Figure 1.** The article selection process for the Systematic literature review using PIRISMA framework.

Classification is one of the most relevant aspects of systematization, as it identifies the main feature of the papers under review. The studies that finally met the delimitation criteria of this systematic review were analyzed for research outlets. After selection, the review classified relevant studies based on various parameters to better understand the research done so far regarding factors affecting capital structure decisions.

To assess and synthesize the information in the existing research study, all the selected articles were well organized and classified, and a systematic analysis of the existing literature was performed based on the following parameters.

- 1) Focus of the study: bank-specific factors only, macro specific factors, and both factors.
- 2) Theories related to the studies include: Pecking Order Theory, Trade off Theory, Agency Theory, Signaling

Theory, and Market Timing Theory.

- 3) Methodology: Quantitative Research, Qualitative Research, and Mixed Research.
- 4) Variables of interest: profitability, tangibility, growth, size, age, liquidity, tax shield, dividend payout, risk, earning volatility, GDP, inflation, and interest rate.
- 5) Citation: cited, and non-cited.

### 3. Result and Interpretations

#### 3.1. Introduction

This section presents and discusses the major findings of the systematic review. The analysis was conducted on a sample of 11 papers with the aim of identifying knowledge gaps on the factors affecting the capital structure decisions of banks. To carry out this systematic review, the studies

focusing on capital structure decisions were identified mainly using the Google Scholar search engine, the descriptive analysis was made, and the literature was classified based on different parameters to facilitate the presentation. When analyzing the main researcher of the studies, it is noticed that all studies conducted in Ethiopia on factors affecting the capital structure decisions of banks were taken into considerations.

### 3.2. Descriptive Analysis

A descriptive analysis of eleven studies was carried out to know the basic ongoing trend of publication on factors affecting the capital structure decisions of commercial banks in Ethiopia. To answer the research question, the review has analyzed the publication trend, which is seen in terms of total publication by year, the focus of the study, variables of interest, theories used, methodologies adopted in general, and citations.

#### 3.2.1. Year Wise Publications

This section provides the trend of literature on factors affecting capital structure decisions based on its publication frequency in terms of years.

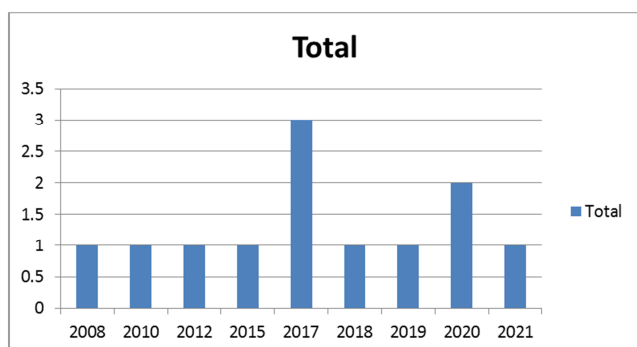


Figure 2. Studies Distributions.

Figure 2 depicts that the year wise distribution frequencies of the studies of capital structure decisions of banks in Ethiopia are uniform from the year 2008 to 2021, except for the years 2017 and 2020, which have the highest number of studies. Before the year 2008, there were no studies conducted in Ethiopia on factors affecting the capital structure decisions of banks that were published and freely accessible. Even though 64% of the entire studies were MSc theses, the remaining 36% were published articles, which show how much the study related to the subject matter and was conducted in Ethiopia.

#### 3.2.2. Focus of the Study

The study focuses on bank-specific factors and macroeconomic-related factors. In general, these two factors determine the factors affecting the capital structure decisions of banks. Concerning the current literature review, the studies conducted in Ethiopia on banks show that the highest number of studies focuses only on bank-specific studies, whereas no one study separately focuses on macroeconomic related factors (refer to figure 3).

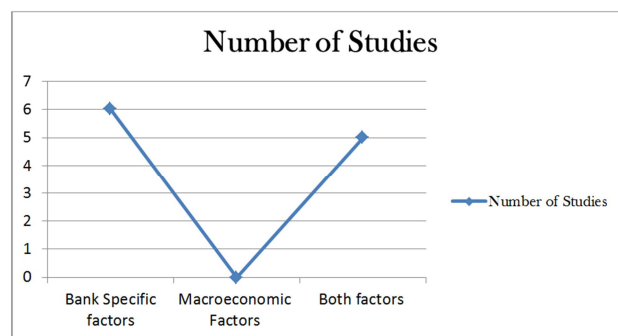


Figure 3. Focus of the studies.

#### 3.2.3. Theories Backed

Following the birth of the MM capital structure theory, a lot of theories emerged on the issue of capital structure. The main objective of this review is to show the factors affecting the capital structure decisions of commercial banks in Ethiopia, describe the applicability of capital structure theories in the present business environment, and identify the most accepted theory as per the studies under review. Figure 4 depicts that trade off theory, pecking order theory, agency theory, signalling theory, and market timing theory were the theories used in the studies under review. The first three theories trade off theory, pecking order theory, and agency theory were almost used in all studies. Therefore, Figure 3 indicates that there is a marked predominance for trade-off theory (all studies), which deals with the optimization of the capital structure, followed by Pecking order theory (9 studies), agency theories, signalling theory and market timing theory.

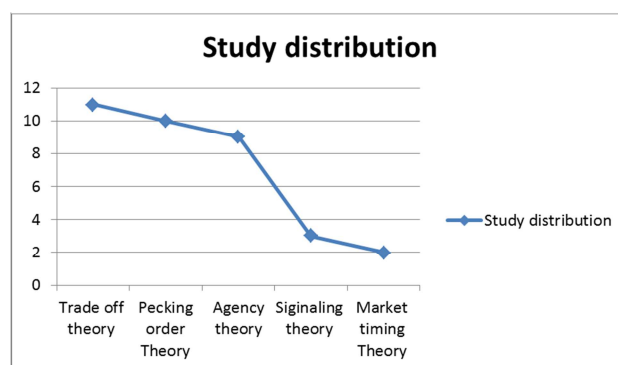


Figure 4. Theories used in the studies.

#### 3.2.4. Methodology

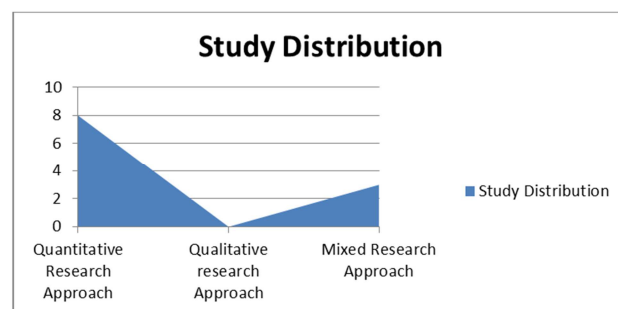


Figure 5. Study Approach Used.

In general, figure 5 reveals the study distribution of the methodology: mixed research approaches were highly employed next to quantitative research approach whereas no study solely employed a qualitative research approaches to study the factors affecting capital structure decisions of commercial banks in Ethiopia.

### 3.2.5. Variable of Interests

In Figure 6, it is observed a diversification of the variables used in the studies in relation to the topic of factors affecting the capital structure decisions of commercial banks.

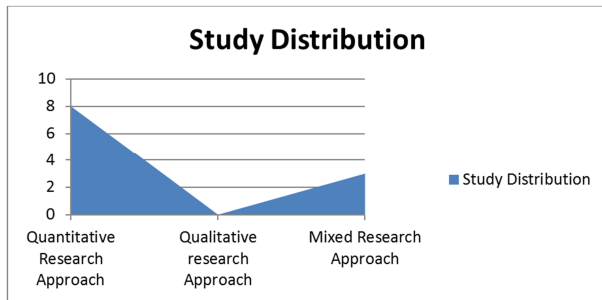


Figure 6. Variable of interest.

The figure reveals that the first variable of interest highly explored is profitability, which was used in all studies; secondly, size, tangibility, and growth were the second variables highly used in the studies, including liquidity. On the other hand, earning volatility and interest rate were the variables of interest investigated and used by a few, among others.

### 3.2.6. Citations

Figure 7 shows that, from all the studies under review, the second study (S2) is the most highly cited paper. The figure also depicts that papers S2, S3, S4, S5, and S8 are cited, whereas the others are not.

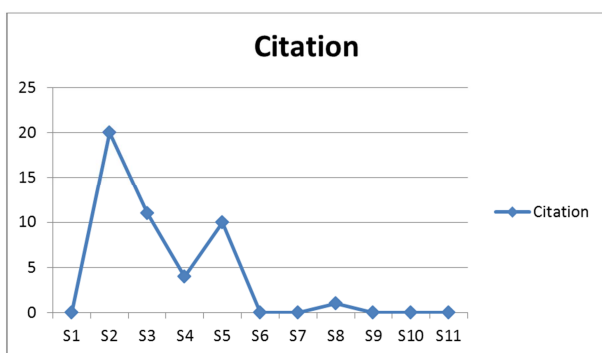


Figure 7. Citation Analysis.

## 4. Discussions

### 4.1. Introduction

Modigliani and Miller (1958) published their groundbreaking work in 1958, which is when capital structure theory first emerged. They presented a global transaction cost and tax structure and came to the conclusion that the capital

mix has no bearing on the firm's ability to achieve its objectives. However, after taking corporation taxes into account, they changed their minds, arguing that businesses subject to corporate taxes should be entirely financed by debt [4]. Thus, according to the Modigliani Miller theorem, a firm's capital structure has no bearing on its value in an efficient market with no taxes, bankruptcy costs, or asymmetric knowledge. Capital structure decisions are much more difficult when these values must be considered in the real world.

Then, one of the key areas of research in corporate finance is capital structure. Numerous studies have been done on how businesses choose their capital structures since the Modigliani Miller report was released. Since the 1990s, a lot of work has been put into figuring out how firms choose their sources of capital and what influences this structure. Prior research has also concentrated on the institutional disparities between developed and developing countries, which mostly drive these choices [34, 37].

As stated by R. BLGN Global capital structure research examines whether there are any differences in capital structure determinants between developing and developed nations. The orientation toward the financial system is one of the possibilities for these discrepancies. The existence of financial system orientation as a significant country-specific capital structure factor is supported by some literature [1].

The findings suggest a relationship between a firm's capital structure and its orientation toward the financial system in developing nations. Generally speaking, companies in nations with a history of civil law and advanced, market-oriented financial systems have greater leverage ratios. On the other hand, there is a relationship between firm-specific capital structure variables and the level of financial development. In nations with a sophisticated financial system, the firm-specific variables found in the research hold true, but they are insufficient to explain the capital structure decisions of enterprises in less developed financial systems.

However, the lack of an adequate capital market retards economic growth and makes it impossible to optimize firm capital structures. Because the public dominates the financial sector in African nations, particularly Ethiopia, share capital is not as freely available to foreign investors as it would be under a privatization. In nations suffering from a lack of a secondary market to raise money for the expansion of new as well as existing companies, the bases for preference of financial source choices are limited. Various sources of funding may be used by different businesses, and variables affecting the capital structure of banking are no different [11].

The finding reveals that the study under review is concentrated on macroeconomic and bank-specific aspects. These two aspects often determine the variables influencing banks' capital structure decisions. In relation to the current literature analysis, research on banks done in Ethiopia reveals that the majority of studies solely concentrate on bank-specific research, while no study specifically focuses on macroeconomic-related aspects.



Regarding the variable of interest, it can be seen that the variables utilized in the research in regard to the subject elements influencing the capital structure decision of commercial banks have diversified into both bank specific and macroeconomic variables. The descriptive analysis shows that profitability, which was employed in all studies, is the first variable of interest that has been thoroughly studied; the second criteria that were frequently included in the studies, along with liquidity, were size, tangibility, and growth. On the other hand, interest rates, inflation, GDP, risk, age, dividend payout, and earnings volatility were the variables that interested researchers looked at and utilized, among others.

#### 4.2. Variable of Interests

It can be seen from the descriptive analysis of the variable of interests that a number of variables were employed as explanatory variables in the research pertaining to the subject factors influencing the capital structure decision of commercial banks in Ethiopia. The study shows that profitability, which was employed in all studies, is the first variable of interest that has been thoroughly investigated. The second factor thoroughly explored in the factors affecting the capital structure decisions of banks in Ethiopia, next to profitability, was size, tangibility, growth, and liquidity. In contrast, a few researchers looked at and used the following variables: tax shield, GDP, risk, age, dividend payout, earning volatility, and interest rate.

One of the main theoretical controversies is the relationship between leverage and profitability in a firm. Profitability is a measure of the earning power of a firm. The earning power of a firm is the basic concern of its shareholders. Profitability is one of the prime explanatory variables studied in the literature of capital structure. The majority of the analysis shows that profitability is negatively associated with leverage, and when the relationship is seen separately in different studies of around the world, it is found to be negatively related to leverage.

Different studies, such as [25, 19, 14, 5] argue that more lucrative businesses can borrow more money and that lenders of debt will be more eager to lend money because their likelihood of defaulting is lower than that of less profitable businesses. Profitable businesses have an increased incentive to use more debt to take advantage of debt interest tax shielding because they are also required to pay more taxes. There is disagreement on the theoretical and empirical findings regarding the relationship between profitability and capital structure. Both the trade-off hypothesis and the pecking order theory are supported by the findings from earlier research. Most research revealed a negative relationship between profitability and leverage, which is consistent with the pecking order theory, according to which businesses favor internal funding over external finance. This negative relationship is observed for both developed and developing countries [2].

In the same manner, generally, studies in Ethiopia regarding profitability as an explanatory variable show a

statistically significant and negative relationship [3, 48, 28, 13, 47, 16, 9, 40]. This explains why businesses typically use internal resources like retained earnings and owner's equity. Different areas may have different justifications for choosing internal funding. Businesses in developing regions lack other resources, and the cost of financing is also very expensive. Additionally, there is an asymmetry issue that makes equities expensive, and the capital markets are also underdeveloped [35].

While these criteria may not apply to developed countries, it is possible that profitability is very high and other sources of financing are easily accessible in these places, making the conventional sources less profitable. The enterprises generally adopt a balancing strategy, which also lends credence to the pecking order hypothesis of capital structure. Although some research has indicated a favorable correlation, when taking into account the whole impact, including the region-specific impact of profitability, it is discovered to be inversely associated with the leverage [35].

Similarly, the trade-off argument is supported by Frank & Goyal's findings that profitability and leverage have a positive relationship. Businesses with better profitability have more borrowing capacity, which reduces risk for lenders. Therefore, because more lucrative companies are better able to repay their debts, debt holders will be more willing to lend them money [29].

According to Huang & Vu Thi, debt can be used as a strategy to lower agency expenses. Since debt is linked to required interest payments, using greater debt restricts the management's ability to act [31]. Therefore, it would be wise for profitable organizations to employ greater debt as a tool to discipline managers in order to maximize free cash flow [15]. Therefore, it is anticipated that enterprises with higher profitability will have higher levels of leverage due to increased lending capacity, reduced agency costs, and the benefit of tax shields, resulting in a positive link between profitability and leverage.

The capital structure trade-off theory is supported by this finding. The aforementioned conclusions show that there is evidence to support both the pecking order theory of capital structure and the trade-off theory. Both theories' justifications for their claims are sound.

Nevertheless, some studies, notably [7, 25, 8] have demonstrated that there is no relationship between profitability and the leverage ratio of commercial banks in Ethiopia. Their findings go against the pecking order theory, the tradeoff theory, and the previous studies of capital structure.

The other most explored variables are the size of the bank, tangibility, and growth. The findings of the studies concerning these explanatory variables, tangibility, liquidity, and growth, are contradictory with each other and the literature, whereas the size of the bank is similar to the literature [38, 17, 12,]. The following table shows the summary of the studies conducted in Ethiopia on the factors affecting the capital structure decisions of commercial banks along with the explanatory variables.

**Table 1.** Factors affecting capital structure decisions: Explanatory variables in 11 studies.

Explanatory Variables		Number of studies on Factors affecting capital structure decision of Commercial banks in Ethiopia										
		S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
1	Profitability	-ve	-ve	-ve	-ve	-ve	-ve	-ve	0	-ve	0	0
2	Size	-ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	0	na
3	Tangibility	na	-ve	0	-ve	-ve	-ve	-ve	-ve	-ve	-ve	0
4	Growth	-ve	0	0	0	0	+ve	0	0	-ve	+ve	na
5	Age of the Bank	+ve	na	+ve	na	na	na	-ve	na	na	na	0
6	Dividend Payout	-ve	na	na	na	na	na	na	na	na	+ve	na
7	Liquidity	na	-ve	na	na	-ve	+ve	0	-ve	0	-ve	na
8	Risk	na	0	na	na	0	na	na	na	0	0	na
9	Earning volatility	na	na	na	+ve	na	na	na	na	na	na	na
10	Tax Shield	-ve	na	+ve	na	na	na	+ve	+ve	na	+ve	na
11	GDP	-ve	na	na	0	na	na	na	na	na	0	+ve
12	Inflation	+ve	na	na	0	na	-ve	na	na	na	0	na
13	Interest rate	na	na	na	na	na	na	na	na	na	na	-ve
Number of research duration in Year		9	11	9	8	11	9	6	10	8	5	12

Note:

1-ve stands for a statistically significant and negative relationship with capital structure decisions (leverage ratio).

2+ve stands for a statistically significant and positive relationship with capital structure 3decisions (leverage ratio).

4na stands for the variable that was not used in the study (not available).

50 indicates there is no relationship or it does not affect capital structure (statistically insignificant).

6S1 stands for Study 1.

### 4.3. Citation Analysis

A citation shows the relationship between the cited item and the citing document. Citation analysis is a method for gathering pertinent studies. It aids in locating the most significant studies pertinent to the task at hand. The number of citations is used as a measure of the quality of the literature used in the analysis. A higher number of citation counts is positively related to the study's quality. Citation count and face validity are used to derive the citation analysis measure [35].

To identify influential writers and their papers in capital structure research, citation analysis of a sample of publications is carried out. It serves as a tool for gathering pertinent research since it makes it easier to determine which studies have the greatest impact on the subject area. The citation score serves as a benchmark because high citation scores are positively correlated with an article's quality [36]. But the result of this review reveals that from eleven studies, only five are cited, and the remaining six are not cited. This demonstrates how poor and unexplored Ethiopian studies on factors influencing capital structure decisions of commercial banks are. Even from the total studies conducted, 64% of the entire studies were MSc theses and the remaining 36% constitute a published article, which reveals how much of the study related to the subject matter was conducted in Ethiopia. Similarly, Ding and Cronon argue that the citation depicts the relationship between the cited and citing articles. Citation analysis determines the prominence and influence of an article in the scientific community by counting the number of times it is referenced in other works [23]. Therefore, from this, we can conclude that though the capital structure decision is controversial, the attempt is very weak and poor.

Referring to the year-wise distribution of the studies, the finding shows that, with the exception of 2017 and 2020,

which have the highest number of studies, the frequency of studies of the capital structure choices of banks in Ethiopia has remained constant from the years 2008 to 2021. There were no published studies on factors influencing bank capital structure decisions in Ethiopia before the year 2008. Even considering the studies under review, the quality of the paper was very poor, the given that 64% of the total studies were MSc theses and the remaining 36% were published articles. From the studies under review, the most cited articles were [48, 28, 47, 13, 7] respectively and the remaining six studies were not cited. The trend of the publications and the quality of the studies are not convincing and promising.

### 4.4. Theories Backed

Following the development of the MM capital structure theory, numerous theories on capital structure-related issues have emerged. The main purpose of this review was to indicate the factors influencing the capital structure decisions of Ethiopian commercial banks, describe how capital structure theories apply in the current business environment, and identify the most widely accepted theory according to the studies under review. Trade-off theory, pecking order theory, agency theory, signalling theory, and market timing theory were the theories used in the studies under evaluation, as indicated by the descriptive analysis (Figure 3). Almost all studies used the first three theories: agency theory, trade-off theory, and pecking order theory. As a result, the descriptive analysis indicates that there is a marked predominance for trade-off theory (all studies), which deals with the optimization of the capital structure, followed by Pecking order theory (9 studies), agency theories, Signalling theory and market timing theory.

Regarding the theories employed in the studies under consideration, certain findings indicate the pecking order theory is more applicable to the Ethiopian banking sector,



whereas the static tradeoff theory and the agency cost theory were supported by limited evidence [48, 16, 47].

The empirical results of the study show that the capital structure decisions of Ethiopian private commercial banks are primarily explained by the two capital structure theories, static trade-off and pecking order [13, 40, 10].

On the other hand, Alebachew contends that the pecking order theory and the trade-off theory helped to understand the capital structure behavior of the Ethiopian banking system [9]. Similar to this, Fisseha said that all three capital structure relevancy theories—Static trade-off, Pecking order, and Agency cost theory—are only partially recognized in Ethiopia's commercial banking industry, though Static trade-off theory has more supportive evidence [28].

In the same manner Estifanos contends that the pecking order theory was relevant to the Ethiopian banking sector, but the trade-off theory and the market-timing hypothesis lacked substantial evidence [25]. However, the other two investigations were unable to determine the study's position [3, 7]. Although the review aims to advance knowledge of capital structure choices by looking at the variables influencing commercial banks in Ethiopia and emphasizing both bank and macroeconomic characteristics, it makes little progress in the empirical capital structure literature in terms of establishing the relative importance of country-level factors for capital structure choices. The results of the investigations and the theoretical underpinnings were contradictory and incoherent.

## 5. Conclusions

This study conducts a systematic literature review of the capital structure choice made by the commercial bank of Ethiopia with the purpose of exploring the factors influencing capital structure decisions and critically summarizing it to identify the gap and the level of the studies in the field and provide directions for further research. A systematic review of pertinent and readily available academic publications published in any time period was undertaken to understand the focus of the review on the capital structure decisions of commercial banks. Based on the year-wise distribution, the study's focus, the citation analysis, variables of interest, and theories supported, the descriptive analysis offered by this systematic literature review was an invaluable tool for evaluating significant contributions on the issue under examination.

The majority of studies found a negative link between profitability and leverage, which is consistent with the pecking order theory, which holds that businesses prefer internal funding over external financing. Both developed and developing nations exhibit this negative association. Profitability is the explanatory variable that has been investigated the most among those that were employed in all of the studies, according to the descriptive analysis.

The findings show a statistically significant and negative relationship between leverage and profitability. This result is consistent with the findings of earlier studies, although it is

incongruent with some other literature that contends that profitability has a positive effect on bank leverage.

However, some research, notably, has shown that there is no relationship between profitability and the leverage ratio of Ethiopian commercial banks. Their findings contradict the trade-off theory, the pecking order theory, and previous capital structure studies.

The size of the bank, tangibility, and growth are the additional factors that are frequently addressed. While the size of the bank is consistent with the literature, the findings of the studies regarding the explanatory factors tangibility, liquidity, and growth are in conflict with one another and the literature.

Though the issue of capital structure decisions is controversial, the review's findings show that the level and quality of the studies on capital structure decisions of banks in Ethiopia in all aspects are very poor and understudied.

In the banking literature, the subject of bank capital structures is still largely unexplored. At the moment, it is unclear how banks decide on their capital structure and what influences their business financing behaviour.

Determining the capital structure is particularly difficult, especially in developing nations like Ethiopia where there are no secondary financial markets. As a result, in nations without a secondary market, corporate firms' financing options are now more constrained or restricted. Corporate finance professionals, financial policymakers, and regulatory authorities must work together to address this problem.

## Future Agenda

Since the studies conducted on the factors affecting capital structure decisions of commercial banks in Ethiopia were very few in number and the results were not convincing for policy implications, it is advisable for academicians and researchers to further study the reviewed title to provide genuine recommendations.

The banking literature still doesn't cover the capital structure of banks very much. There is currently a lack of clarity regarding how banks determine their capital structure and what variables affect their corporate financing behavior. Therefore, it is recommended that the concerned body and authority conduct an in-depth study of the decisions banks make about their capital structure by identifying pertinent elements.

## Declarations

Availability of data and materials all the data generated or analyzed during this study are included within the submitted manuscript.

## Conflict of Interest Statement

As an author's we declare that there are no competing interests.

## Authors' Contribution

All authors equally contributed.

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