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TRADE FINANCING AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED IN NAIROBI SECURITIES EXCHANGE, KENYA

[1] Orubia Mark Godfrey, [2] Dr. Ngali Richard, [3] Dr. Matanda Joshua

[1]Masters Student, Jomo Kenyatta University of Agriculture and Technology
[2]Lecturer, Jomo Kenyatta University of Agriculture and Technology
[3]Lecturer, Jomo Kenyatta University of Agriculture and Technology

ABSTRACT

Trade finance has evolved significantly from traditional, cumbersome transaction methods to more structured and efficient financial instruments. Historically, global trade was predominantly conducted on an open account basis, where buyers received goods on credit and made payments later. However, this approach posed significant challenges, particularly in fostering trust between geographically dispersed trading partners. To mitigate these risks, banks and financial institutions introduced trade financing instruments to facilitate secure and reliable transactions. This study aimed to examine the effect of trade financing on the financial performance of commercial banks listed on the Nairobi Securities Exchange. Specifically, it assessed the effect of letters of credit and bank guarantees on banks' financial outcomes. The research was anchored on Modern Portfolio Theory (MPT) and the Balanced Scorecard, employing a cross-sectional descriptive research design. The study targeted all ten listed commercial banks in Kenya, utilizing secondary data spanning six years (2018–2023). Data analysis was conducted using the Statistical software Statistics and Data (STATA), with descriptive statistics (means, frequencies, and standard deviations) summarizing the data, while Pearson's correlation coefficient and panel regression analysis facilitated inferential analysis. The findings revealed strong positive correlations between financial performance and letters of credit ($r = 0.569$) and bank guarantees ($r = 0.599$), suggesting that higher utilization of these trade finance instruments enhances financial outcomes. Additionally, regression analysis confirmed that letters of credit ($\beta = 0.319$) and bank guarantees ($\beta = 0.202$), significantly (p-values < 0.05) influence financial performance. Based on these findings, it is recommended that commercial banks in Kenya optimize their use of trade financing instruments, develop tailored financial solutions to support businesses, and collaborate with regulatory authorities to improve access to trade finance. These insights underscore the strategic role of trade financing in strengthening the financial performance of commercial banks and provide valuable guidance for policymakers and banking professionals in enhancing trade finance mechanisms for sustainable growth and profitability.

Key Words: Trade financing, financial performance, letters of credit, banks' guarantee

Background of the Study

International trade plays a crucial role in economic growth and development by enhancing resource utilization, increasing national income, and fostering global market integration. The classical economists Adam Smith and David Ricardo, as cited in Elmslie (2018), argued that international trade enables countries to allocate resources more efficiently, thereby promoting economic expansion. Additionally, Pascali (2017) asserts that international trade fosters competition, leading to lower prices and a broader variety of goods and services for consumers. Furthermore, trade opens up new markets for businesses, allowing them to expand beyond domestic boundaries and generate higher revenues. Consequently, cultivating international trade is essential for accelerating economic development and sustaining global financial stability.

However, despite its benefits, international trade presents challenges, particularly trust issues between trading partners. Exporters expect payment before shipping goods, while importers demand proof of shipment before making payments (Costello, 2019). This lack of mutual trust often results in delayed transactions, financial risks, and inefficiencies in cross-border trade. To address these challenges, financial institutions, particularly commercial banks, play a vital role by offering trade financing solutions that facilitate seamless international trade transactions.

Trade finance refers to the financial instruments and products that support both local and international trade by mitigating risks and ensuring smooth transaction settlements (Gokmenoglu, Amin, & Taspinar, 2015). Banks and other financial intermediaries provide essential trade finance instruments, including letters of credit (LCs), bank guarantees, factoring accounts receivables (invoice financing), and documentary collection. These instruments enhance transaction security by ensuring that both importers and exporters meet their contractual obligations while minimizing exposure to payment defaults and financial losses. Bonfiglioli, Crinò, and Gancia (2018) describe trade finance as a mechanism that optimizes financial management, investments, and asset allocation in international trade, thereby fostering global commerce.

In recent years, Kenya has experienced significant growth in international trade, with key trading partners including China, the United States, France, the United Arab Emirates, Japan, and various African nations (Savelli, Schwartz, & Ahlers, 2019). This increased trade activity has driven commercial banks to expand their trade finance services to facilitate cross-border transactions. Additionally, regulatory changes in Kenya's banking sector, such as the introduction of interest rate capping in 2016 at 14%, significantly impacted traditional bank income streams. Interest rates on commercial bank loans declined from 17.66% in 2016 to 13.7% in 2017, reducing the profitability of funded income streams and prompting banks to seek alternative revenue sources (Costello, 2019). As a result, many banks have shifted their focus toward non-funded income sources, such as trade financing and investment in treasury securities, to sustain profitability.

Trade finance provides a revolving source of income for banks, improving liquidity and mitigating risks associated with credit lending. However, despite its growing significance, there is limited empirical evidence on the effect of trade financing on the financial performance of listed commercial banks in Kenya. This study seeks to bridge this knowledge gap by examining the effect of letters of credit, bank guarantees, documentary collection, and factoring accounts receivable on the financial performance of commercial banks listed on the Nairobi Securities Exchange (NSE).

In Kenya, the value of trade amounts to about two thirds of the nation’s Gross Domestic Product (GDP) (Mungiru & Njeru, 2015). Trade through exports and imports has brought about

implications in the country. Exports provides an access to larger markets and innovation through high competitions for Kenyan firms which may lead to higher growth rate and productivity. Seemingly, according to World Bank (WB) (2018), importation of consumer goods is critical for consumers, whereas machinery importation and variety of intermediate products enhances greater production in the manufacturing and industrial sectors hence creating job opportunities.

Trade finance is of great value since its unavailability leads firms into credit arrangements between themselves such as open account transactions and cash in advance (Kahuthu, 2016). This may pose risks of bankruptcy and inability of firms to settle their debts as well as hindering economic development. To pull through these challenges, firms seek trade finance from banks, financial institutions and export promoting agencies (Nderitu, 2012). Banks have since moved from the use of funded income which is mostly borrowing to (non- funded income trade finance). Increased use of alternative channels boosts operational efficiency while also increasing Non-Funded Income (CBK, 2019). With the introduction of interest rate capping in 2016, the average interest rate for commercial banks in Kenya has remained stable. The average commercial bank lending rate decreased to 13.22% in June 2018 compared to 13.66% in June 2017. The average deposit rate increased from 7.61% in 2017 to 8.26 in January 2018 but later declined to 8.04% in June 2018, also due to interest rate capping and law liquidity conditions (Savelli, Schwartz, & Ahlers, 2019).

In Kenya, interest rates for commercial banks are derived majorly from interest income (funded income). Commercial banks have undergone significant new competition hence have lost important regulatory protection. According to the NSE (2018) annual report, commercial banks have recorded no change in the interest rates which was recorded at 9.0% in 2019 and as remained stable in 2019. Commercial banks in Kenya determine their performance using commissions earned, foreign exchange as well as liquidity. These challenges emanating from competition has led to reduced profit margins and deposit intermediation. Intermediate trade finance from banks may be provided through documentary collection, letters of credit, bills of exchange, factoring accounts receivable, banker's acceptance, documentary collections, bank guarantees as well as promissory notes (CBK, 2019). This study focused on intermediate trade finance service comprising of factoring accounts receivable, letters of credit, documentary collection and bank guarantee.

Statement of the Problem

Over the past decade, commercial banks in Kenya have faced declining financial performance due to challenges in their operational environment. Economic slowdowns, regulatory changes, and market conditions have contributed to financial instability, with some banks even reporting losses (CBK, 2019). The introduction of interest rate capping in 2016 significantly reduced banks' interest income, adversely affecting profitability. Although the repeal of interest rate capping facilitated sector recovery, commercial banks' performance remains inconsistent. For instance, total banking sector assets grew by 8.23%, from KES 4.4 trillion in 2018 to KES 4.8 trillion in 2019, while net profit rose by 4.07% (CBK, 2019). However, some banks, such as Trans-National Bank, Sidian Bank, HFC Bank, and Spire Bank, continued to experience losses, highlighting the persistent financial struggles within the sector.

At the same time, Kenya's total international trade reached US$28.49 billion in 2022, reflecting a 7.52% increase from the previous year (CBK, 2022). Exports grew to US$7.14 billion, while imports expanded to US$21.35 billion, signifying a continued reliance on international trade. With Uganda, the United States, the Netherlands, Pakistan, and the United Kingdom as Kenya's top export destinations, the demand for trade financing remains critical in facilitating cross-border transactions.

Trade finance plays a vital role in bridging trust gaps between buyers and sellers, ensuring smooth international trade transactions. Traditionally, global trade relied on open account systems, where goods were shipped before payments were made, leading to mistrust between trading parties. To mitigate this challenge, commercial banks and financial institutions stepped in as intermediaries, offering Letters of Credit, Bank Guarantees, Documentary Collection, and Factoring Accounts Receivable to enhance transaction security and efficiency.

Despite the significance of trade finance, existing research has primarily focused on trade credit, supply chain competition, and trade finance management rather than its direct impact on the financial performance of banks. International studies (Lee, Zhou & Wang, 2017; Cao & Yu, 2018; Akter & Barua, 2016) have explored trade credit and its influence on supply chain dynamics, while local studies (Kahuthu, 2016; Nderitu, 2012) have examined trade finance practices and international trade without addressing its effect on bank profitability. This gap in literature necessitates an empirical investigation into how trade financing influences the financial performance of commercial banks in Kenya. This study seeks to fill that gap by analyzing the relationship between trade finance instruments and the financial performance of listed commercial banks in Kenya.

General Objective

To determine the effect of trade financing on financial performance of listed commercial banks in Kenya.

Specific Objective

i. To determine the effect of letters of credit on financial performance of listed commercial banks in Kenya.

ii. To assess the effect of banks' guarantee on financial performance of listed commercial banks in Kenya.

LITERATURE REVIEW

Theoretical Framework

Modern Portfolio Theory

The modern portfolio theory pioneered by Harry Markowitz in 1952 is a theory that describes how investors could create portfolios to ensure maximization of expected returns on the basis of a provided amount of risk in the market, with the emphasis on risk being an essential component of high rewards. The MPT offers a normative technique to investors' decisions on investing in risky securities of assets. Rice (2017) claims that the theory basis is on the postulation that investors are risk averse. This means that investors should maintain a well-diversified portfolio rather than putting all of their money into a single asset or security (Mangram, 2013). The theory notes that there is a possibility of creating an effective frontier of portfolios that optimal that offer the highest likely expected returns for a certain risk level.

According to Martellini (2008), the goal of using MPT is to create an investment portfolio that produces predictable returns. In this system, risk is defined as return volatility. The concept of using MPT trade financing allows managers to understand what to expect from the investments as a whole, as well as how the investments fit into the overall portfolios (Bines, 1976). Before market portfolio theory was introduced, the investors were unable to link portfolio of stock to the associated risks. According to Hawley and Lukomnik (2018), if the investor anticipated a rise in the stock's price, it was put in the portfolio instantly. Markowitz (1959) devised a precise approach for generating various theoretical suitable portfolios. This theory is important in this research because it aims at guiding the researcher in maximizing the correlation of numerous risks and performance by creating of assets portfolios guided by their individual returns, risks, covariance, or links with various assets. MPT creates a basis in which any expected return has

diverse expected outcomes. As a result, the theory provides guidance to the investor in making investment portfolio decisions.

Several scholars have nevertheless critiqued the theory arguing that MPT has several assumptions. First, the theory assumes that an investor is a risk-averse which means that investors desire portfolios that are less risky to a riskier one (Beyhaghi & Hawley, 2013). As a result, investors will only take on more risk if they expect a higher reward. Furthermore, the theory assumes that investor's view risk and return as inextricably linked - that you must take a higher risk in order to receive a higher return (Francis & Kim, 2013). Despite the criticism the study found the theory appropriate in anchoring the study because of its premise to reduce risk through multifaceted products such as letters of credit, banks' guarantee, documentary collection and factoring accounts receivable. The theory was therefore used to support all independent variables.

Capital Asset Pricing Model (CAPM)

The Capital asset Pricing Model (CAPM) developed by scholars Treynor (1961), Sharpe (1964), Lintner (1965) and Mossin (1966), considers the sensitivity on an asset to risks that are non-diversifiable and anticipated return, and the anticipated return of a theoretical risk-free assets. CAPM is a model that explains the link of security's anticipated risk and return. It shows that the anticipated return on securities is equal to the risk-free returns in addition to the risk premium founded on the security's beta (Kisman & Restiyanita, 2015). This model offers a useful metric for investors to decide what kind of return they can expect from an investment in exchange for risking their capital.

According to Sattar (2017) the powerful simple logic and instinctively good predictions about the link between the expected returns and how to measure risk is what makes the CAPM attractive. Further, the model shows a straightforward theory that yields a straightforward outcome. According to the theory, the main reason an investor ought to earn more money, on average by investing in one stock other than another is that one of the stock's has more risk (Bao, Diks & Li, 2018). Despite failing multiple empirical tests and the presence of a great number of modern ways to pricing of assets and selection of portfolio, the CAPM is still common because of its simplicity and applicability in a wide range of circumstances.

However, maybe due to its simplicity, the model's record empirically is poor and therefore invalidates the manner of its applications. The model's empirical challenges may represent real flaws, but they could also be as a result of the limitations of empirical tests bad substitutes for the business portfolio of invested wealth, which is crucial to the model's predictions (Willigers, Jones & Bratvold 2017). Fama and French (2015) examined the New York Stock Exchange, the American Stock Exchange, and Nasdaq share returns and noted that beta differences over a long period failed to explain performance of numerous stocks. According to Elbannan (2015) for shorter periods of time, the linear link of beta and distinct stock returns often breaks down.

Since the study was based on instruments used in international trade, it follows that investors are constantly faced with variations macro-economic variables such as interest rate movement and exchange rates movement. The CAPM captures the sensitivity of returns to variations in these macro-economic variables. As a result in appraising the specific products, commercial banks consider their required rate of return based on their exposure to variations in market returns. Consequently, the study found the theory relevant in anchoring letters of credit, banks' guarantee, documentary collection and factoring accounts receivable.

Empirical Literature Review

Letters of Credit and Financial performance

Working with an international customer may be risky since a firm usually have no idea with who they are dealing with (Alavi, 2016). Even in situations where a buyer has good intentions

and is trustworthy, financial challenges or instability in nations could result to delays in payment or drive a buyer out of business. Letters of credit are often used by buyers and sellers to cover themselves. A credit letter is obtained from a bank with a promise that payment by a buyer to a seller will be done timely and the required amount, according to Ghasemi, Mallahi, Sadeghi, and Hatamiasdabadi (2016). This is done due to a customer's inability to advance a payment on the purchase, the bank can pay the full or remaining sum.

Factors that come with international trade dealings like distance, differing laws and policies in each nation has made the use of letters of credit a highly vital facet of international trade (Ding & Zeller, 2017). Letters of credit allows for reduction for risk while still doing business. They are valuable and useful tools, but they only work if all of the specifics are right. Many of the advantages of a letter of credit may be wiped out by a small error or delay.

In this case, a bank promises to pay on behalf of a customer and will only issue a letter of credit if only they trust that the buyer will pay. Only after completing particular acts and fulfilling the conditions outlined in a letter of credit does a beneficiary receive payment. According to Rafiei and Tamizi (2016), in foreign trade, the seller may be expected to supply the stock ordered in order to meet the letters of credit's requirements.]. Upon the delivery of the stock, the seller will receive the documentation proving that the delivery has been made and the documents are forwarded to the bank. The bank will review the letter of credit to ascertain that the seller performed any required actions.

Ding and Zeller (2017) examined the effectiveness of the new provisions of letters of credit rule of fraud exception. The study looked at if the Chinese understanding of fraud exemption, which was used by the Uniform Customs and Practice Model Law for Documentary Credits (UCP), is reliable and consistent with other countries' opinions. The aim of the study was to make a comparison of fraud regulation by Chinese to English and US jurisprudence and assess efficacy by observing the prevalent English and US viewpoints. According to the study's findings, regulations by Chinese are related to foreign jurisprudence, indicating that the changes are operational in general. Nevertheless, there exists gaps or concerns that cause confusion.

Rafiei and Tamizi (2016) did a survey on various methods of assigning rights in connection with letters of credit (LC). The analysis looked at two types of deferred LCs: discounting acceptance and deferred payment LCs. The results of the research demonstrated that negotiation of LC is the most suitable was for assigning of rights and minimizing the chance of discounting for the bank that is discounting. Furthermore, according to the survey, acceptance LC provides a suitable incentive for discounting as it requires a negotiable instrument in the form of a bill of exchange, and there exists an orderly secondary markets for Acceptance.

In Iran, Nazari, Hasangholipour and Moosavi (2010) evaluated the influence of factors affecting letter of credit debtors in a major of Iran's private banks. The study focused on locating and integrating some of the major elements in effectively controlling and ultimately enhancing the operation of the international banking system so that financial institutions' losses can be reduced, if not completely eliminated, when dealing with borrowers who borrow money using the letter of credit form. The study's results indicated that there is a substantive and doable link between financial institutions that uses the system of letter of credit, the form of letter of credit, and numerous factors affecting the borrower, like their age, type of currency of use, and other elements that will be addressed in depth during this study to strengthen the letter of credit system.

Bank Guarantees and Financial performance

A bank guarantee is a guarantee provided by a lending entity to ensure that a borrower's obligations are fulfilled. This means that if the debtor defaults on the payment, the bank will cover the cost. A bank guarantee allows a customer, or debtor, to purchase products, purchase equipment, or obtain a loan (Gropp, Guettler & Saadi 2018). Through bank guarantees, a company can buy what it otherwise could not. Bank guarantees are important in providing finances for the international and local business which they might have considered impossible. In addition, bank guarantees help in improving the terms of the tenders and also help traders negotiate better terms of contract.

According to Gerhardt & Vennet (2017), there are different kind of bank guarantees; the direct guarantee which are typically used by the banks in foreign and domestic trade and are dispensed directly to the beneficiaries. For international and cross-border transactions, most traders prefer direct assurances because they have no type specifications and are hence more readily adapted to foreign legal systems and procedures. In addition, Knezevic and Lukic (2016) stated that on the other hand, indirect guarantees are most common in the export industry, especially when government agencies or public bodies are the beneficiaries of the guarantee. Indirect guarantees are not accepted in many countries because of legal issues therefore one uses an indirect bank mostly a foreign bank that has a head office in the beneficiary's nation of residence.

In 2011, in European authorities Mayordomo, Moreno, Ongena and Rodriguez-Moreno (2019) investigated how bank capital requirements impacts on collateral and capital guarantees usage in order to improve capital ratios. The study used data obtained from the Spanish bank and other non-financial institutions. According to the findings, personal guarantees are used more than collateral and more so with lower capital ratios. A study by Gropp, Guettler, and Saadi (2018) looked into the effect of guarantee by bank on allocative performance. According to the research, when guarantees are in place, firms which are unproductive make more investments and uphold high sales growth rates. In addition, the organisations produce less productively. Moreover, firms with banks portfolios endure longer as compared to firms that enter guaranteed banks' portfolios. In general, the study concludes that guaranteed banks hold inefficient businesses for far too long, preventing them from exiting the market.

Grande, Levy, Panetta and Zaghini (2012) aimed to do an investigation on the effects of public guarantees on bank bonds effectiveness and distortions. The research examines the results of the guarantee schemes implemented in Autumn 2008, evaluating their efficacy and costs in retrospect. According to the findings of the report, the bind guarantee issued by most advanced economies in Autumn 2008 was part of a package of rescue steps that included capital injections, asset purchases/guarantees, and, in the case of central banks, large-scale liquidity support. Bond guarantees were also found to be an important policy tool. Guaranteed bond issuance was substantial, and the schemes seem to have met their two key objectives.

Conceptual Framework

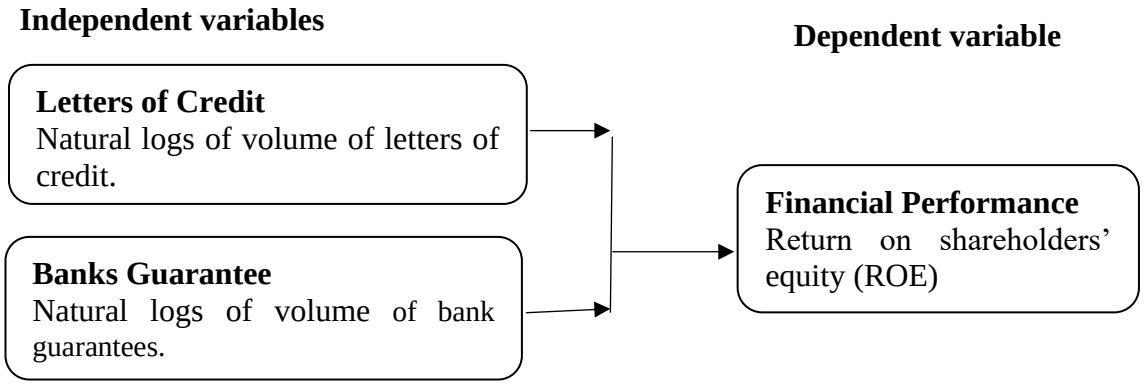

Figure 2.1: Conceptual Framework

RESEARCH METHODOLOGY

Research Design

A research design is a framework that provides guidance and helps to determine how data is collected and analysed (Creswell & Creswell, 2017). This study utilized a cross-sectional descriptive research design. This design accounts for how things exist in their original state Cooper and Schindler (2011). It attempts to respond to the following questions: how, why, what, and when. The design, provides a snapshot demonstration of variables to subjects at particular point in time (Cooper & Schindler, 2011). In addition, the research design aims to collect facts or obtain pertinent and detailed data about the present state of a situation, and drawing potential conclusions from the evidence gathered, where possible.

Target Population

The target population refers to the entire group of individuals, items, or entities to which a researcher intends to generalize the findings of a study (Mugenda & Mugenda, 2003). According to Kothari (2004), a population is defined as a complete set of elements individuals, objects, or events that conform to a set of specifications relevant to a given inquiry. The target population for this study, comprised all the ten commercial banks listed on the Nairobi Securities Exchange in Kenya. These institutions were selected due to their public disclosure requirements, which enhance data availability and comparability.

Data Collection Instrument

The study used secondary data obtained from the annual audited and published financial statements of the listed commercial banks and the Central Bank of Kenya (CBK) reports. The data was quantitative in nature. Secondary data collection sheet was used to obtain the information required. Where necessary, the researcher contacted the specific banks through email and phone so as to obtain the requisite information. The credit manager and credit staff were contacted to facilitate this.

Data Collection Procedure

This involves the process in which the researcher follows in an attempt to obtaining information from the target population for data analysis (Mugenda & Mugenda, 2003). The researcher visited listed commercial banks websites to obtain published financial statements to extract data on value of letters of credit issued, value of bank guarantees issued, value of documentary collection financed, value of factored account receivables, net profit after tax and shareholders' equity. The researcher physically visited the listed commercial banks if any of the required information was not available. For this reason, credit and their staff as well as

finance manager were contacted to provide such information. Information collected for a period of 6 years between 2018-2023.

Data Processing and Analysis

The Statistical Package, Statistics and Data (STATA) was used for data analysis. Descriptive statistics such as means, frequencies, and standard deviation was used to analyse quantitative data. In addition to descriptive statistics, the research used multiple regression analysis to perform inferential analysis. The study used both Pearson's correlation coefficient and regression analysis to perform inferential data analysis. Regression analysis was conducted in accordance with Hayes (2017) regression analysis to show how independent and dependent variables are related. Panel regression analysis was conducted to demonstrate the how trade finance affects financial performance of listed commercial banks in Kenya. The findings were presented in tables.

Model Specifications

The study adopted the following regression model specification

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \varepsilon$$

Where*:*

Y represents Financial Performance of the firm i at time t

$\mathbf{B_0}$ represents Y intercept. This is constant. i.e. level of Financial Performance when the predictor variables have values of zero.

β_1, , and β_2 represents Beta coefficients of variables X_1 **and** X_2

X_1 represents Letter**s** of Credit of firm i at time t

X_2 represents Banks Guarantee of firm i at time t

t = represents Time factor

ε = represents error term

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive Statistics

Descriptive statistics are category of statistics that primarily describe the features and characteristics of data obtained. The aim of descriptive statistics is to provide summaries of a population. Further, descriptive statistics encompass measures such as mean score, frequencies and percentage as a proportion of the population, measures of spread as well as measures of central tendency. Measures of spread comprise of minimum values, variance, standard deviation and maximum values. The measures of central tendency in a data set include median, mean and mode.

In this study, descriptive statistics calculated include standard deviation, mean, maximum and minimum values of letters of credit, banks' guarantee, factoring accounts receivable, documentary collection and financial performance respectively. Table 4.1 presents the descriptive findings of the study variables.

Table 4.1: Descriptive Statistics on Trade Financing and Financial Performance

Variables (000)	N	Minimum	Maximum	Mean	Std. Deviation
Letters of credit	60	6603.0	82248000.0	22329152.320	19637108.3995
Banks' guarantee	60	82351.0	94580000.0	32779576.680	24341770.4206
Valid N (listwise)	60				

The findings in Table 4.1 indicates a substantial utilization of letters of credit ranging from a minimum of 6,603 to a maximum of 82,248,000, with a mean amount of approximately 22,329,152.32. This wide range suggests diverse levels of engagement in international trade activities among the banks. Moreover, the significant standard deviation of approximately 19,637,108.40 underscores the variability in the amounts of letters of credit issued, reflecting the diverse nature of trade transactions and risk exposures faced by these banks. The finding can be linked to Alavi's (2016) assertion that letters of credit are often used by buyers and sellers to cover themselves against potential financial challenges or instability in nations, thus facilitating smoother international trade transactions. Furthermore, Ding and Zeller (2017) showcase the importance of letters of credit in reducing risks inherent in international trade dealings, particularly due to differing laws and policies across nations. The wide range in the utilization of letters of credit, coupled with the significant standard deviation, underscores the variability in the amounts of letters of credit issued among the sampled banks. This variability reflects the diverse nature of trade transactions and the varying levels of risk exposures faced by these banks, as highlighted by Ding and Zeller (2017).

The descriptive findings on bank guarantees show that banks' guarantees exhibit a similar pattern of diversity, with amounts ranging from 82,351.00 to 94,580,000.00 and a mean utilization of approximately 32,779,576.68. The substantial variability, as indicated by the standard deviation of approximately 24,341,770.42, suggests differing degrees of involvement in trade financing activities among the sampled commercial banks. This variability underscores the diverse levels of risk exposure and support offered by banks to facilitate trade transactions.

These findings align with the literature on trade financing and financial performance. Empirical literature supports the importance of documentary collection in financial performance. For instance, Dinçer, Yüksel, and Şenel (2019) emphasized that documentary collection provides exporters with greater control over payments, reducing risks compared to open account trade. Ghazaryan et al. (2021) demonstrated that data on documentary collections enhances forecasts of international trade, indicating its significance in global commerce. Furthermore, Aujara (2019) highlighted the role of robust management practices in mitigating risks associated with documentary discrepancies, which directly influence the effectiveness and reliability of this instrument.

Regarding factoring of accounts receivable, the study revealed notable variation in its application among the sampled commercial banks in Kenya. Utilization levels ranged from as low as 3,221 to as high as 22,586,000, with the average standing at approximately 6,355,534.12. This significant disparity underscores the differing strategies employed by banks in managing cash flows and reducing credit risks tied to trade-related transactions.

This observation resonates with existing literature on financial performance in the banking sector. According to Alavi (2016), financial challenges or instability in nations can lead to delays in payment or drive buyers out of business, affecting banks' profitability. Furthermore, Aujara (2019) highlighted the role of robust management practices in mitigating risks associated with documentary discrepancies, which directly influence the effectiveness and reliability of this instrument, which aligns with the notion that effective trade financing strategies, such as letters of credit and factoring accounts receivable, can impact financial performance positively (Irawan & Samopa, 2019). The presence of negative ROE values underscores the need for banks to optimize their trade financing practices to improve overall profitability and efficiency.

Trend Analysis

In addition to the descriptive analysis conducted on various trade financing variables and financial performance indicators, a trend analysis was employed to discern patterns and

trajectories over the study period. Trend analysis offers a dynamic perspective, allowing researchers to identify evolving tendencies and assess the direction of changes in key variables over time. By examining sequential data points, trend analysis provides valuable insights into the long-term performance and behaviour of commercial banks in Kenya concerning trade financing and financial outcomes. This methodological approach enables researchers to detect underlying patterns, forecast potential future developments, and formulate informed strategies for enhancing trade financing practices and optimizing financial performance in the banking sector.

Letters of Credit

In the context of the effect of trade financing on the financial performance of listed commercial banks in Kenya, trend analysis offers a crucial tool for understanding the evolving dynamics of letters of credit (LCs) utilization over the study period. Trend analysis allows us to examine patterns, fluctuations, and shifts in the utilization of LCs by commercial banks over time. Through trend analysis, we aim to uncover insights into how the utilization of LCs has evolved among Kenyan commercial banks, whether there are any discernible patterns or cycles, and how these trends relate to broader changes in the banking sector or international trade landscape.

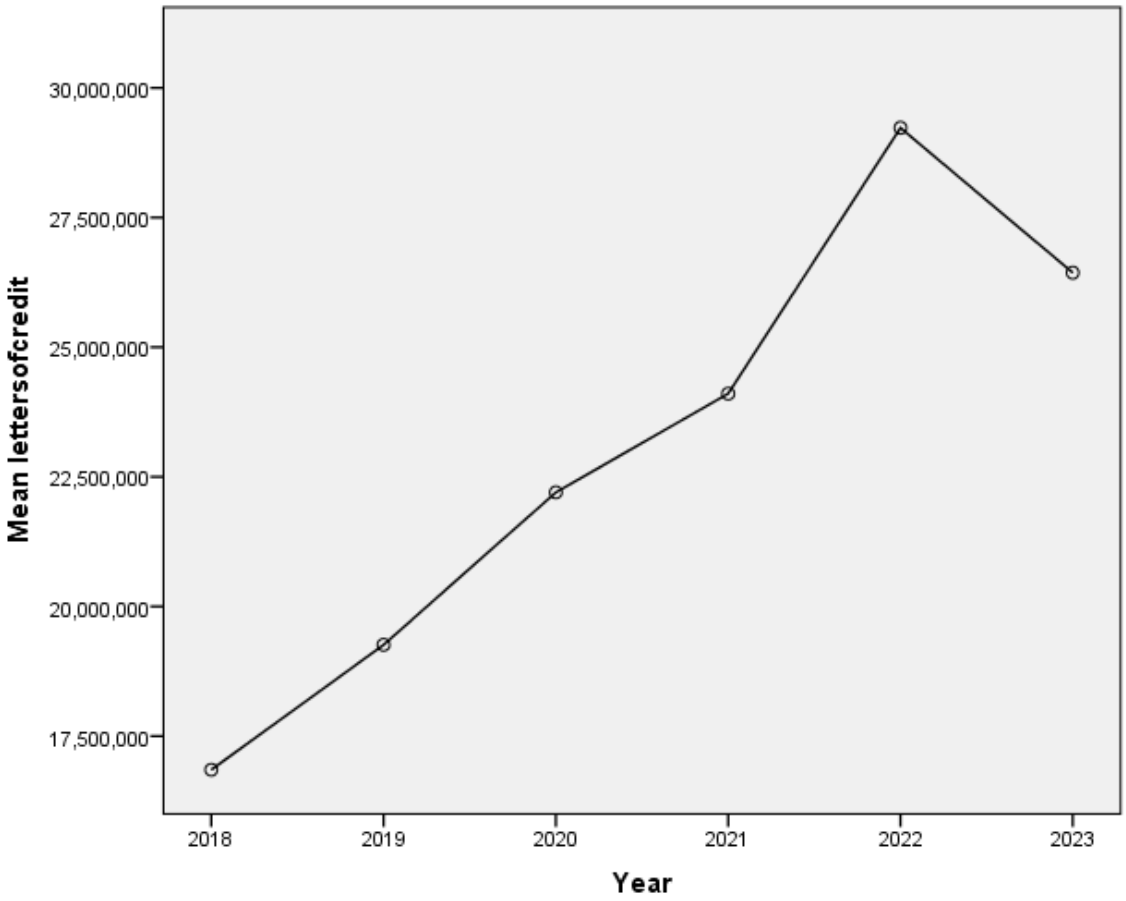

Figure 4.1: Trend Analysis on Letters of Credit

The data exhibits a general upward trend in the utilization of Letters of Credit (LCs) from 16.85 million in 2018 to a peak of approximately 29.23 million in 2022. However, a notable decline is observed in 2023, where the utilization of LCs drops to approximately 26 million. This shift represents an initial substantial growth of around 12.38 million over five years, followed by a downturn. Over the period from 2018 to 2023, the consistent increase in LC utilization suggests a growing reliance of Kenyan banks on this trade finance instrument to facilitate international

transactions. The increase aligns with global trade expansion and businesses' need for secure payment mechanisms. This trend supports existing literature on trade financing, as highlighted by Alavi (2016), who notes that LCs provide a secure mechanism for mitigating risks in cross-border trade, ensuring timely payments and goods delivery.

The decline in 2023 suggests possible external factors influencing the demand for LCs. Economic fluctuations, regulatory changes, and shifts in global trade patterns could contribute to this drop. As Irungu (2019) notes, macroeconomic trends and regulatory environments significantly impact trade financing instruments. The dip in 2023 may reflect a contraction in trade volumes, shifting banking policies, or alternative trade financing mechanisms gaining prominence. This new pattern highlights the importance of assessing external economic and policy factors that influence LC utilization beyond historical growth trends. While the overall trajectory remains positive, the 2023 decline calls for further investigation into the challenges faced by businesses in securing trade finance through LCs.

Bank Guarantees

In this context, the study explores the trend analysis for bank guarantees (BGs) utilized by listed commercial banks in Kenya over the period from 2018 to 2023. Figure 4.3 presents the trend in bank guarantees

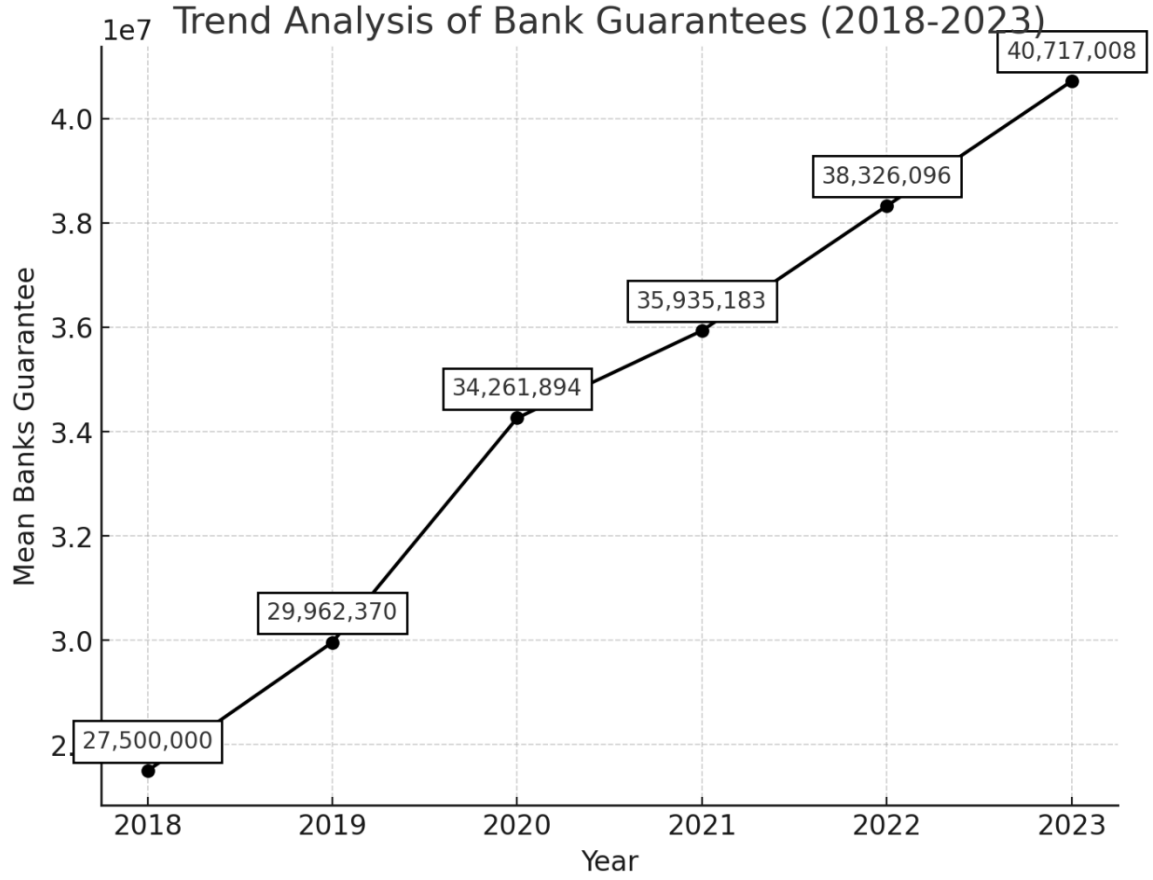

Figure 4.2: Trend Analysis on Bank Guarantees

The data on bank guarantees utilization from 2018 to 2023 demonstrates a continuous upward trend, highlighting the increasing reliance of Kenyan banks on this financial instrument. The total value of bank guarantees rose from 27.50 million in 2018 to 40.72 million in 2023, reflecting a substantial increase of approximately 13.22 million over the six-year period. This upward trajectory in bank guarantees utilization aligns with existing literature on trade financing, which underscores the critical role of bank guarantees in securing international trade

transactions. As emphasized by Ding and Zeller (2017), bank guarantees offer financial security to sellers by ensuring payment and performance obligations, thereby fostering trust and stability in trade partnerships. This mechanism is particularly vital in cross-border transactions, where parties face higher risks and uncertainties.

Furthermore, the consistent growth in bank guarantees utilization reflects the expanding scope and complexity of international trade activities involving Kenyan banks. Baos-Caballero et al. (2014) highlight that as businesses extend their reach into new markets and engage in cross-border trade, the demand for bank guarantees as a risk-mitigation tool increases proportionally. The observed trend signifies the evolving role of Kenyan commercial banks in facilitating global trade and providing comprehensive financial solutions to support business operations in an interconnected economy. Additionally, the sustained increase in bank guarantees utilization could be influenced by broader macroeconomic factors, including trade policy shifts, economic expansion, and evolving regulatory frameworks governing trade finance. The trend observed in the data suggests that businesses are increasingly leveraging bank guarantees to secure transactions and enhance their operational stability in a dynamic global market environment.

Financial Performance

The study sought to establish the trend analysis for financial performance of commercial banks between 2018 and 2023. It was measured in terms of Return on shareholders' equity (ROE). Figure 4.3 presents the trend analysis.

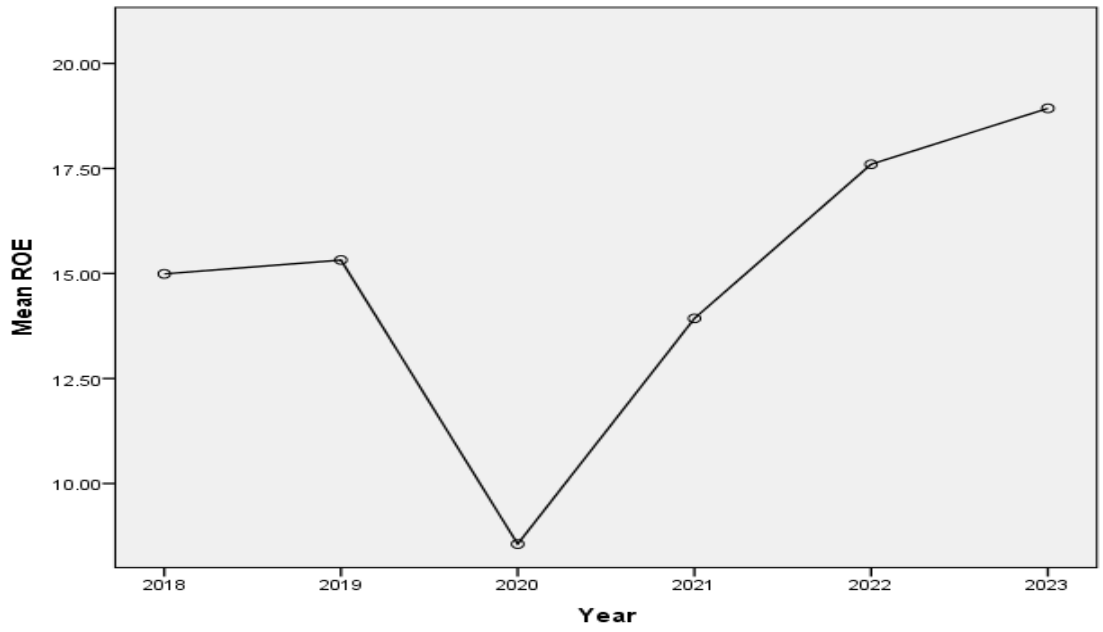

Figure 4.3: Trend Analysis in Financial Performance

The trend analysis of Return on Equity (ROE) indicates fluctuations in financial performance over the years. In 2018, ROE stood at approximately 15%, showing a relatively stable performance. However, in 2020, there was a significant drop in ROE to around 9%, suggesting a decline in profitability or efficiency during that period. This sharp decrease could be attributed to economic downturns, changes in market conditions, or operational challenges linked to the COVID-19 global pandemic, which affected financial institutions worldwide. Following this decline, 2021 saw a notable recovery, with ROE rebounding to around 14%, reflecting an improvement in financial performance. The upward trend continued in 2022, with ROE rising further to approximately 17.5%, and in 2023, it reached its highest level at around 19%. This pattern in ROE highlights the resilience of the banking sector, as financial

institutions adapted to market conditions and improved operational efficiency over time. The drop in 2020 was likely due to economic disruptions, while the post-2020 recovery suggests a period of strategic adjustments, economic stabilization, and enhanced profitability within the sector. The rising ROE in 2021-2023 reflects increased efficiency, better asset utilization, and stronger financial health among commercial banks.

The literature on financial performance and management underscores the significance of effective practices in enhancing profitability metrics such as Return on Equity (ROE). For instance, Raheman et al. (2010) emphasize the role of financial strategies, such as trade financing and financial leverage, in boosting firm profitability, suggesting that well-implemented management practices can significantly improve ROE. Similarly, Padachi (2006) highlights how optimizing financial management patterns, such as secure trade financing mechanisms, influences firm efficiency, stressing the necessity of leveraging instruments like Documentary Collection to mitigate risks and enhance profitability. Additionally, the findings align with the research by Baños-Caballero et al. (2014), which explores the relationship between financial management practices and performance in non-financial companies. Their study concludes that efficient financial practices, including the strategic use of trade financing tools like Documentary Collection, positively impact profitability metrics such as ROE. This supports the observed improvements in ROE over time, as the banks may have enhanced their trade financing strategies, including Documentary Collection, to achieve better financial outcomes.

Inferential Statistics

Inferential statistics were conducted to determine the relationship between the study variables. The study computed correlation analysis and multiple regression analysis.

Correlation Analysis

Correlation coefficient is considered to be measure used in measuring the relationship between two variables, which can be both independent variables or an independent variable and dependent variable. The correlation coefficients in a data set can range from positive one and negative one. If the correlation values are $r = \pm 0.1$ to ± 0.29 then the relationship between the two variables is small, if it is $r = \pm 0.3$ to ± 0.49 the relationship is medium, and when $r = \pm 0.5$ and above there is a strong relationship between the two variables under consideration. The significance of the relationship was tested at 5% level of significance with p-values less than 0.05 suggesting there exist a significant correlation between the variables.

Table 4.2: Correlation Analysis

		Financial Performance	Letters of Credit	Bank Guarantees
Financial Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	60		
Letters of Credit	Pearson Correlation	.612**	1	
	Sig. (2-tailed)	.000		
	N	60	60	
Bank Guarantees	Pearson Correlation	.734**	.556	1
	Sig. (2-tailed)	.000	.041	
	N	60	60	60
	N	60	60	60

There is a significant positive correlation between letters of credit and financial performance ($r = 0.612$, $p < 0.05$). This suggests that higher utilization of letters of credit is associated with better financial performance among the sampled commercial banks. This finding aligns with the literature provided by Ding and Zeller (2017) particularly with the discussions on the

importance of letters of credit in facilitating international trade transactions. Higher utilization of LCs may indicate increased engagement in international trade, which can positively impact financial performance.

There is also a significant positive correlation between bank guarantees and financial performance ($r = 0.734$, $p < 0.05$). This indicates that higher utilization of bank guarantees is associated with better financial performance. The literature by Irungu (2019) supports this finding, highlighting the role of bank guarantees in mitigating risks and enhancing trade financing. Effective use of bank guarantees may contribute to improved financial performance by reducing transaction risks.

Regression Analysis

From Hausman test, random effect model was the preferred panel model. The study thus computed random effect model to provide information on individual behaviour, both across individuals and over time. The random effect model is important in the establishment of the strength and nature of a relationship. The main aim is to show how and the extent to which each variable separately influences the dependent variable. The study computed random effects model to test the effect of letters of credit, banks guarantee, banks acceptance, factoring accounts receivable and documentary collection on financial performance of listed commercial banks in Kenya. The findings were also used to test the research hypothesis. Table 4.3 presents the model results.

Table 4.3: Random Effect Regression Model

Random-effects GLS regression	Number of obs	60			
Group variable: Year	Number of groups	6			
R-sq: within = 0.7406	Obs per group: min	10			
between = 0.7109	avg =	10			
overall = 0.7066	max =	10			
	Wald chi2(4) =	52.25			
corr(u_i, X) = 0 (assumed)	Prob > chi2 =	0.0000			
ROE	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
lettersofcredit	0.3284	0.1123	3.1	0.002	(0.1054, 0.5514)
BanksGuarantee	0.2847	0.0875	3.25	0.001	(0.1152, 0.4542)

The model summary findings were used to explain the amount of variation in the dependent variable that can be attributed to changes in the independent variables. Based on the findings in Table 4.8, the overall R-squared value is 0.7066, suggesting that 70.66% of the variation in financial performance of listed commercial banks in Kenya can be explained by letters of credit, bank guarantees, factoring accounts receivable, and documentary collection.

Since the probability value (Prob > Chi² = 0.0000) is less than the 0.05 significance level, this indicates that the model is statistically significant. Therefore, the independent variables are significant predictors of financial performance among listed commercial banks in Kenya. To further assess the influence of each variable, the regression coefficients were examined. The following panel regression model was derived:

$$\mathbf{Y = 1.1743 + 0.\ 3284\ X_{1it} + 0.2847\ X_{2it} + \varepsilon}$$

The coefficient associated with letters of credit in the random-effects GLS regression analysis is 0.3284, indicating a positive relationship between the utilization of letters of credit and

financial performance among the sampled commercial banks. This finding suggests that an increase in the use of letters of credit is associated with improved financial performance, which aligns with existing literature emphasizing the role of letters of credit in facilitating international trade and mitigating transaction risks (Alavi, 2016; Ding & Zeller, 2017). By providing assurance of payment to buyers and sellers, letters of credit contribute to smoother trade transactions and reduced financial uncertainty, ultimately bolstering banks' financial performance.

Similarly, the coefficient for bank guarantees is 0.2847, implying a positive association between the utilization of bank guarantees and financial performance. This result corroborates findings from prior studies highlighting the importance of bank guarantees in trade financing activities (Rafiei & Tamizi, 2016). Bank guarantees serve as instruments of financial security, offering assurance to parties involved in trade transactions. As such, their utilization can enhance trust and confidence in trade dealings, leading to improved financial outcomes for commercial banks.

Summary of Findings

Letters of Credit

Descriptive statistics revealed a substantial utilization of LCs among the sampled commercial banks, indicating a mean amount of approximately 22,329,152.32 with significant variability. Trend analysis further demonstrated a consistent increase in LCs utilization over the study period, highlighting the growing reliance on LCs to facilitate international trade transactions. Correlation and regression analyses affirmed a significant positive relationship between LCs utilization and financial performance, indicating that higher utilization of LCs is associated with better financial outcomes. This aligns with the literature emphasizing the role of LCs in mitigating risks and facilitating trade, ultimately contributing to improved financial performance.

Bank Guarantees

Descriptive analysis showed a diverse range of bank guarantees utilization among commercial banks, with a mean utilization of approximately 32,779,576.68. Trend analysis revealed a steady increase in bank guarantees utilization over the study period, reflecting the growing complexity of international trade activities. Correlation and regression analyses confirmed a significant positive correlation between bank guarantees utilization and financial performance, indicating that higher utilization of bank guarantees is associated with better financial outcomes. This finding underscores the importance of bank guarantees in mitigating risks and enhancing trade financing, as supported by the literature.

Conclusions

Based on the findings regarding the utilization of letters of credit, it is evident that a strategic approach to utilizing this trade financing instrument significantly influences the financial performance of listed commercial banks in Kenya. The analysis indicates a positive correlation between the utilization of letters of credit and financial performance, with higher utilization associated with improved profitability and operational efficiency among the sampled banks. Therefore, it is concluded that the strategic deployment of letters of credit positively and significantly affects the financial performance of listed commercial banks in Kenya.

Similarly, the findings regarding the use of bank guarantees reveal a positive relationship between their utilization and financial performance. The analysis indicates that higher utilization of bank guarantees is linked to better financial performance, emphasizing the role of bank guarantees in mitigating risks and enhancing trade financing activities. This aligns with prior research highlighting the importance of bank guarantees in fostering trust and confidence in trade relationships. Consequently, it is concluded that the strategic utilization of bank

guarantees positively and significantly influences the financial performance of listed commercial banks in Kenya.

Recommendations

Letters of Credit

Concerning letters of credit, it is advisable to promote their continued utilization as a strategic instrument for facilitating international trade transactions. This could be achieved through targeted training programs aimed at enhancing staff expertise in managing letters of credit effectively. Additionally, fostering collaborative partnerships with international financial institutions and conducting regular reviews of utilization patterns can further refine operational efficiency and minimize associated costs.

Bank Guarantees

In the case of bank guarantees, efforts should focus on raising awareness among businesses regarding the benefits of utilizing bank guarantees in trade transactions. Enhancing collaboration with regulatory authorities to streamline processes and ensure compliance is also essential. Moreover, investing in advanced risk management systems can help banks mitigate potential risks effectively, thereby enhancing the attractiveness of bank guarantees as a financial instrument.

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