

**LOAN CHARACTERISTICS AND REPAYMENT PERFORMANCE AT THE
HIGHER EDUCATION LOANS BOARD IN KENYA**

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DECLARATION

Declaration by the Student

I declare that this research project is my original work and has not been submitted for an award of a degree in any other University for examination purposes.

Signature.....

Date.....

Declaration by the Supervisor

This Research project has been done under my supervision and I certify that it has not been presented in any previous form.

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DEDICATION

This research project is dedicated to my parents; My father Mr. Samuel Kwang'a Agutu and my mother Mrs. Donata Otieno Agutu who had this dream of higher education since my early years. I am grateful and appreciate their support, love and encouragement during my education.

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ABBREVIATIONS AND ACRONYMS

| | |
|-----------------|---|
| ACSI: | Association of Christian Schools International |
| ANOVA: | Analysis of Variance |
| CBK: | Central Bank of Kenya |
| CEO: | Chief Executive Officer |
| CHE: | Commission for Higher Education |
| CRB: | Credit Reference Bureau |
| CLRM: | Classical Linear Regression Model |
| FGLS: | Feasible Generalized Least Squares |
| GOK: | Government of Kenya |
| GSSP: | Government Sponsored Students Programme. |
| HELB: | Higher Education Loans Board |
| HELF: | Higher Education Loans Fund |
| HESLB: | Higher Education Students Loan Board |
| KRA: | Kenya Revenue Authority |
| MFI: | Micro Financial Institutions. |
| MSEs: | Medium Scale Enterprises |
| NACOSTI | National Commission for Science, Technology, and Innovation |
| NPL: | Non-Performing Loans |
| PSSP: | Private Sponsored Student Programme |
| SMEs: | Small and Medium Enterprises |
| SPSS: | Statistical Package for Social Sciences |
| TVET: | Technical Vocational Education and Training Institutions |
| U. S. A: | United States of America |

USLS: University Student Loans Scheme

VIF: Variance Inflation Factor

OPERATIONAL DEFINITION OF TERMS

| | |
|--------------------------------------|--|
| Effectiveness: | Level of success of the loan recovery system in curbing default. |
| Higher Education Loans Board: | This is an institution mandated to issue bursaries, loans, and scholarships for training at public institutes, which are renowned by the Ministry of Education of Kenya. |
| Interest Rate: | This refers to the amount charged by the loans board as interest on loan issues to higher education students. It serves as the cost of loans issued to students. |
| Loan Characteristics: | Loan characteristics refer to the various attributes of loans such as loan size, loan tenure, default penalty, and interest rate. |
| Loan Size: | This refers to the number of loans being issued by the Loan board to higher education students for purposes of schooling. |
| Loan Tenure: | This refers to the maturity date or the duration of the loans issued to higher education students. It includes the number of years or months the loan repayment is agreed to take. |
| Loanee/beneficiary/graduate: | Makes reference to people who have received education loan either under the higher Education loans fund (HELF) or the Ministry of Education. |

| | |
|---------------------------------|---|
| Matured Loan: | Refers to a loan whose interest is due for repayment by the loanee |
| Postgraduate Repayment: | Amount of loan remittances by loanees categorized under masters and Ph.D. categories |
| Repayment Performance: | This refers to the level at which students pay back the loans issued to them. The standard of recovery defines it by the loans board. |
| Tertiary Repayment: | Refers to loan repayment collected from loanees under the colleges and technical institutions |
| Undergraduate Repayment: | Refers to payment remitted by Bachelor degree loanees |

ABSTRACT

The Higher Education Loans Board aims to enhance access and retention of qualified needy students in university education through loans. In Kenya, it was essential to come up with a higher education loans board due to the increasing cost of tuition. The prices of education meant that students were highly dependable on parents and guardians. The loans board provides loans to the students; however, the problem arises when it comes to the process of recovery. Studies show that around 65000 loan defaulters risk being listed by the Credit Reference Bureau (CRB). Besides, studies have not indicated the factors that influence the repayment of loans by students in Kenya. The main objective of this study is to determine the effects of loan characteristics on repayment performance among students' loanees owing Higher Education Loans Board. The specific variables of the study are the effect of loan size, interest rate, and loan tenure on repayment performance and the moderating effect of unemployment on the relationship between loan characteristics and repayment performance at Higher Education Loans Board in Kenya. The study adopted the Moral Hazard Theory, Adverse Selection Theory, and Financial Intermediation Theory to support the relationship between the study variables. A descriptive research design was adopted in this study since it explains a subject through the creation of a pool of events, problems, and people through data collection. The target population of the study comprised of repayment performance data for the Tertiary, Undergraduate, and Post Graduate loanees for the period 2009-2018. The study utilized secondary data to make inferences and conclusions about the study population. Document analysis of Higher Education Loans Board statistics (specifically financial data annual disbursement and recovery reports) was used. The data on the unemployment rate was obtained from the Kenya National Bureau of Statistics. The data was collected using a document review guide. The data was analyzed using Statistical Package for Social Sciences. The tests that were carried out in the study were Heteroscedasticity, Multicollinearity, and Autocorrelation, and panel unit root test. The inferential (multiple regression and ANOVA) analyses were utilized in the study. The study determined that there is a significant relationship between loan sizes, loan tenure, and repayment performance of loans disbursed by the Higher Education Loans Board. Interest rate is an area that was not conclusively studied; hence, the study determined that the interest rate does not impact repayment performance because it is constant across the years of study. Unlike other studies conducted in the same field, this research determined the moderating effect of unemployment on loan characteristics and repayment performance. The study concluded that unemployment has a significant negative relationship with repayment performance. The findings have been presented using tables. The study recommends that loan characteristics (loan size and loan tenure) should be considered by the Higher Education Loans Board and government policymakers. The unemployment rate should also be considered, and beneficiaries are given at least two years after completing school to start paying their loan.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The repayment performance of loans is a serious issue within the higher education environment. Lending institutions have indicated that there is a high rate of default despite an increase in the demand for higher education loans (Ngali, Senaji & Gesami, 2018). The rise in demand is due to the notion that education is the critical pillar of nations. In reaction to this mounting demand for higher education all over the globe, various governments came up with student loan schemes which aim at facilitating students in their pursuit of education, which spans across various educational levels. Shen and Ziderman(2008) put forward that there is the presence of government-sponsored loans schemes for students in over 70countries in different regions across the world. However, the students, in most instances, have failed to pay back the interest and the principle amount bringing down the repayment performance rates.

The student loan schemes have become an option of financing higher education. They have gained prominence in African countries, which include but not limited to Kenya, Tanzania, Ghana, Namibia, Nigeria, South Africa (Nyahende, 2013). Recently, several countries have also followed suit, such as Uganda and Rwanda, all in East Africa (Onen, Ajuaba, Oceng, & Ndaruhutse, 2015). Recently, there has been, however, a high increase in the default level of students' loans. According to Darolia (2013), the increase in default rate loans to students has brought various concerns about the public financial risks relating to nonperforming debts and the financial difficulties faced by many students. The

economic burden of students as well as that of governments is reduced through the students' loans. However, high rate of loan default has been a matter of concern to the policy makers. This is because high levels of defaults lead to a smaller amount of funds to be disbursed as loans to other and upcoming students (Onen, Ajuaba, Oceng&Ndaruhutse, 2015). This in turn, results in higher budget allocation for such loan schemes by the government (Mussa, 2015). Consequently, it negatively affects the process of budgeting and budget making.

1.1.1 Repayment Performance

In the case of Kenya, HELB is the state corporation authorized to disburse loans to students and to recover the same upon maturity. The fund represents a pool from which finances can be gathered to finance higher education and help students. However, according to Johnstone (2015), there are low rates of loan recovery within HELB, and the proportion of the debt's portfolio, which is at risk, is high. The low repayment performance is causing a serious threat to the sustainability of the revolving fund because the amounts recovered from past students, and expected to be disbursed to subsequent students is not enough to cover the demand for education funds. The low rates of students' loans recovery can be ascribed to several issues, among them being the financing institutions' explicit variables which can be controlled by the lending organization while others are external factors (Nawai, 2010; Wafa& Malik, 2015). Therefore, the study seeks to put such elements into perspective.

In addition, the availability of financial services helps in improving economic and social status of the poor (Fikirte, 2011; Mokhtar et al., 2012). Furthermore, high repayment rate enables the borrowers to obtain higher amount of next loan (Fikirte, 2011). In general, good repayment performance is an indicator of how efficient the management of lending institutions is (Pasha & Tolosa, 2014). Generally, when the loans are properly managed the negative impact on the tax payer is reduced.

Lending entails issuing out credit to individuals for various purposes (Kibrom, 2010). The critical role of credit in terms of economic development is not in doubt. Nevertheless, the surge in the rates of default brings a lot of challenges to the institutions that lend (Mussa, 2015). According to Nyahende, (2013) an upsurge in defaults in terms of repayment of can result in grave implications. It may compel the financial institutions to cease refinancing the defaulters throwing them into a continuous cycle of low productivity.

1.1.2 Loan Characteristics

Loan characteristics refer to the various attributes of loans such as loan size, loan tenure, default penalty, and interest rate (Brutscher, Heipertz&Hols, 2017). The loan size is measured through the amount of principle given to the loanee. The size of the loans matters when it comes to loan repayment because of the effect it has on the amortized repayment amount. Conversely, the loan tenure is measured by the period it takes for the loanee to pay the loan. In a situation where the loan tenure is very short, the possibility of borrowers generating investment returns is low for such periods (Nawai&Shariff, 2012). Besides, in the case where the loan tenure is very lengthy, borrowers tend to redirect

extra money on consumption or other uses that are not productive. Larger loan size tends to increase the anticipated profit of a borrower for the reason that the net return has a positive correlation with the amount of loan; therefore, in most cases, the borrower has a preference for more substantial loans (Pasha & Tolosa, 2014). Thus, the selection of the above measures is justified through empirical studies that associate them with repayment performance.

Furthermore, the interest rate serves as one of the critical loan characteristics. The amount of interest rate charged on loan is the measure used in the study. A surge in the interest rates often tends to impact on the decision of the low-risk borrowers who forgo the credits due to loss of profits (Firafis, 2015). The consequence of this is an unfavorable compositional result as higher interest rates add to the overall risk of the pool of applicants (Mussa, 2015). When the rates are high, the most probable borrowers would be those whose potential returns are high, albeit lower probability. According to Wafa and Malik (2015), due to the need towards attaining a good composition and lowering the portfolio risk, the lenders may put the rates of interest at a level that is below market-clearing and ratio of borrowers owing to their preference over project risk run counter. Therefore, the measure used in the study is the amount of interest charged on the loans.

Also, the loan tenure determines the repayment performance. Mussa (2015) observed that a short loan term impacts the borrowers' ability to generate revenue for repayment. Besides, where the loan term is lengthy, borrowers are inclined to be extravagant, which ultimately diminishes his ability to pay. Thus, for the best results, there is a need for a balance between the cash patterns and the loan terms to promote cash flow budgeting by

the clients. Thus, the time provided in the amortization schedule is the measure of the loan tenure.

1.1.3 Higher Education Loans Board in Kenya

HELB is an institution whose mandate is to issue bursaries, loans, and scholarships for training at public institutions, which are renowned by the Ministry of Education of Kenya (Mussa, 2015). From HELB loans, most Kenyan citizens have ended up achieving their academic goals by studying the degree level. This institution was established by the government in July 1995 through an act of parliament and was given the mandate to manage the student's loan scheme. The decision aimed at making sure that students with inadequate funds can access education at higher levels. Among the additional responsibilities of the board is the recovery of loans when they are outstanding and which were issued to previous university students from 1953 through HELF, an earlier body. The loans board operates under a revolving funds model. Kenyan students undertaking higher education and have financial difficulties can benefit from the fund. The fund was created as an alternative to the funding provided by the exchequer, which stands at 40 percent of the national budget (Mussa, 2015).

The Higher Education Loans Board is the lead in as far as higher education financing in Kenya. It is a State Corporation under the then Ministry of Higher Education, Science, and Technology (Mussa, 2015). HELB was established by an Act of Parliament (Cap 213A) of 1995, which provides for the formation of a board of management whose mandate is to disburse bursaries, loans, and scholarship to enable students from low-income families to enroll in recognized higher education institutions and receive an

education. It provides inexpensive bursaries, loans and scholarship. The main responsibility bestowed upon the agency is finding sources of funds, selection of needy students, and disbursement of loans and bursaries. The Higher Education Loans Board had originally been advancing loans to students in public universities and undergraduate students only. Overtime, the board has widened its coverage, and currently, it advances loans to private universities' students and also to postgraduate students studying in local and private chartered universities. After its establishment, the board set up mechanisms to enable it to collect all outstanding loans. These proved to be a difficult task as the records handed over from the previous loan scheme were incomplete. This proved to be an impediment into the immediate execution of the recovery process as it took time before the board could align all the records received in order to determine how much loans people had been awarded, how many were repaying and at what rate, how many had cleared their loans and how many had outstanding loans. As mandated by the Act, the Board has managed to recover funds issued previously to Kenyans.

The HELB Act spells out the responsibilities and obligations of employers and loanees. Some of the elements include the fact that a loanee is required within one year of completion to provide updated personal information to the board and to initiate the repayment process (section 15(1) (Mussa, 2015). Second, an employer is required to inform HELB within three months of employment of a loanee (Section 16(1). Further, any loanee who does not to meet the requirements within the set time shall, be culpable of an offence and is considered to be in default. Such a person is liable to a fine of not less than Kshs.5000.00" (HELB Act, 16(2)). Lastly, where an employer without logical reason fails to notify the Board of a loanee's employment within the set time period will

be held culpable of an offense and predisposed to a fine of more than 3,000 shillings per month or that he fails to let know the Board of such employment" (HELB Act, 17(2)).

HELB offers a range of products to its clients. The products that are offered by the institution form the base of this study. The products that are of great interest include alternative loan (HELB Financed), Training Revolving Fund (Public Servants) and Training Revolving Fund (KRA Employees).

Alternative Loan (HELB Financed) is product tailored for the salaried Kenyans doing undergraduate, masters and doctorate degrees on part time or fulltime basis. The loan interest in this category is 1% per month; repayment period is 48months. The amount awarded varies from Kshs 100,000.00 up to Kshs 200,000.00 for Master's and Doctorate.

Training Revolving Fund was introduced with an ultimate goal of enabling the public servants to access funds at favorable interest rates for the purpose of training in order to improve knowledge and proficiency deemed vital for improving performance as well as achieving the National development goals. The product covers both short and long courses. For the whole study period, one is awarded a minimum of Ksh. 30,000 and maximum of Ksh 500,000 with loan interest rate of 0.33 percent per month with a repayment period of 72months.

Training Revolving Fund (KRA Employees) is a product between arising from the partnership between KRA and HELB meant to make possible for the KRA employees to build skills vital for performance. For the whole study period, one is awarded a minimum

of Ksh. 30,000 and a maximum of Ksh 500,000 with a loan interest rate of 0.33 percent per month under a 48-month repayment period.

However, HELB has consistently urged its clients to ensure that they make the repayments whenever they are due. According to data from HELB, since it was established, the lender has given out more than Kshs. 40 billion to more than 400,000 students. The data also indicates that around Kshs. 12.1 billion is not yet due for payment (Machogu, Shisia, Nzioki & Kiplimo, 2017). The matter of concern raised by HELB is that the default rate is at 34 percent, and only 68522 past students have paid the loans. Also, around 98000 students are servicing their loans at the moment. Therefore, researchers are tasked with finding out the reasons behind the low repayment rates among the loanees and the effect it has on the future of the lender.

1.1.4 Unemployment and Loan Default

Unemployment in Kenya is on the rise. Therefore, the consensus is that an increase in unemployment among loanees translates to a higher default rate. According to Bai (2016), market labor fluctuations provide an important macroeconomic driver of credit risk variation. However, Gyourko and Tracy (2014) determined that empirical studies indicate that unemployment usually influences mortgage default to negligible proportions in comparison to other risk factors such as the borrower's credit scores. Besides, the outcome of the above study is in contradiction, the theory which assigns unemployment as one of the significant factors in the decision to stop payment of mortgages.

If students cannot get employment upon graduation or lose their job at some point during repayment, then they may have a higher probability of default. It is reported that borrowers who failed to get unemployment exhibited an 83% rise in their likelihood of default over their initial expectations (Woo, 2010). In other studies, on defaults, there have been consistencies in their findings because a job loss leads to a lack of finance to clear the loan debts (Monteverde, 2010). One of the latest studies found that unemployed borrowers are two times likely to default than those employed (Hillman, 2014).

1.2 Statement of the Problem

The toughest part of financial intermediation is loan recovery. Information from HELB indicated that loan performance is at 62.5% (HELB, 2015). The data is an indication that loan performance has been increasing at a slow rate, with the level of the non-performing loan is at 38%. It is also indicated that more than 67,000 beneficiaries of the HELB financing risk being listed with the CRBs over unpaid student loans estimated at sh.6.5 billion. The board has shown that about 67,093 former university students owe the agency 6.5 billion (HELB, 2015). Following 50(1) of the CRB Regulations, financial institutions are required to list both positive and negative performance of all loans. Studies have linked loan characteristics and repayment performance; this has, however, raised questions of the extent and nature of this relationship. The elements will be the central concepts in this study.

The repayment performance depends on tertiary, undergraduate, and post-graduate repayment. In the year 2014/2015, HELB received an increase of 15.7 percent, which meant that it financed a total of 167,553 students at the cost of Kshs. 6.99 billion

(Machogu et al., 2017). Furthermore, at the same time, the lender financed a total of 6,236 students from over 60 TVET (Machogu et al., 2017). The number was a significant increase in comparison to 2,504 postgraduate students financed by HELB. The figures indicate that the lender requires a high level of repayment for the sake of its continuity.

Research has been conducted before on the connection between loan characteristic and their performance. Therefore, there is empirical and theoretical literature to back up the study. The studies included Shu-Teng, Zariyawat, Hamim, and Annur (2015) and Osman and Ramakrishna (2017), who reported that loan performance and loan characteristics have a positive and strong correlation. Consequently, Nawai and Shariff (2012) document an insignificant relationship between loan size, loan repayment period, and loan repayment performance. These studies were, however, primarily based on other countries. Further, the studies fell short of considering the moderating factors and the operating environment of the variables.

The studies have also shown some elements of gray areas that need to be re-evaluated. Kerin (2012) indicated that the main factors include the student's age, the total debt, and the number of years of study. Subsequently, Machogu, Shisia, Nzioki, and Kiplimo (2017) indicated that the monthly penalty is a factor that profoundly impacts the loan performances at HELB. According to Ndungu (2017), when loans do not perform the value of assets and liquidity of a firm declines and this harmfully affect the asset base of the lending institution and negatively impact the institutions' ability to lend further. Different outcomes from different studies mean that there is a need for further research. This research sought to ascertain if loan characteristics significantly impact the performance or recovery of loans by HELB.

1.3 Objectives of the Study

1.3.1 General objective

The study sought to investigate the effect of loan characteristics on repayment performance at the Higher Education Loans Board in Kenya.

1.3.2 Specific Objectives

The specific objectives of the study were:

- i. To establish the effect of loan size on repayment performance at the Higher Education Loans Board in Kenya.
- ii. To determine the effect of interest rate on repayment performance at the Higher Education Loans Board in Kenya.
- iii. To ascertain the effect of loan tenure on repayment performance at the Higher Education Loans Board in Kenya.
- iv. To determine the moderating effect of unemployment on the relationship between loan characteristics and repayment performance at Higher Education Loans Board in Kenya.

1.4 Research Questions

The study sought to answer the following research questions:

- i. How does the loan size affect repayment performance at Higher Education Loans Board in Kenya?
- ii. How does the interest rate affect repayment performance at Higher Education Loans Board in Kenya?

- iii. How does the loan repayment period affect repayment performance at Higher Education Loans Board in Kenya?
- iv. How does unemployment moderate the relationship between loan characteristics and repayment performance at Higher Education Loans Board in Kenya?

1.5 Significance of the Study

The research is critical to the policymakers at HELB as it helps them in coming up with effective and efficient guidelines that ensure a high level of loan repayment and recovery. The Kenyan government will find the proposed study resourceful as it will help them in their budget allocation to HELB as the majority of Kenyan indigenes enrolling in higher education are beneficiaries of the loan scheme. Policymakers will also attach significance to this research as it will provide them with recommendations, which will be as per the outcome of the study. Additionally, other upcoming students researching will also benefit from the proposed research. The study, which will be an in-depth investigation into the subject matter, will lay the foundation for upcoming researchers nationally and globally who wish to carry out a further inquiry into the subject matter.

1.6 Scope of the Study

The research focused on loan characteristics and repayment performance at Higher Education Loans Board in Kenya. Therefore, the conceptual scope was loan size, interest rate, loan tenure, and unemployment, and loan performance. The study focused on HELB in Kenya and the repayment performance data collected over the past ten years. The data used in the study covered the period between 2009 and 2018. The period was most

convenient because they have the most accurate data. Earlier periods are not suitable because when the records were handed over from the previous loans scheme to the current body, they were incomplete. The disparity proved an impediment to the immediate execution of the recovery process because of the time taken to align all the records received. Thus, to determine the loan numbers would take more time than the scope of the study would accommodate. The target population of the study comprised of loan performance data for the Tertiary, Undergraduate, and Graduate loanees for the period 2009-2018.

1.7 Limitations of the Study

The limitation of the study was based on the nature of data that is relied upon in the study. The study relied on secondary data, which meant that the data would not be verified. This challenge was handled through visiting the HELB help desk and seeking clarification on some data elements that had been provided. Further, the researcher had difficulties with getting the institution to participate in the study. HELB help desk was crucial in this study; however, most of the time, the liaison responsible for the data was not available. This problem was dealt with through the exercise of patience and persistence.

1.8 Organization of the study

The research is structured as follows: chapter one provides the research background, research objectives, significance of the study, scope, and limitations of the study. Chapter two provides a literature review. Section two includes a summary of the literature and research gap and the conceptual framework. Chapter three deals with the methodology of the study; it provides explanations on how data will be obtained and analyzed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review of the study; this includes the theoretical analysis, empirical review, conceptual framework, and summaries. It outlines the gaps that exist that have necessitated the conduct of the research under study.

2.2 Theoretical Review

Different theories have been developed which explain loan characteristics and performance. Some of the theories include Moral Hazard Theory, Adverse Selection Theory, Portfolio Theory, and Financial Intermediation Theory.

2.2.1 Moral Hazard Theory

Moral Hazard Theory originated from Akerlof (1970). Trezzini (2005) defines Moral Hazard as the inherent issues that arise in the case where the buyer is not skeptical enough to study the motives of the seller. Contractual agreements must be in good faith when it does not exist; moral hazard takes effect. The danger takes effect because it is difficult to judge the quality of the service, the service is irreversible, and the result is uncertain as a result of external factors (Japelli & Pagano, 2005). The difference between moral hazard and adverse selection is that adverse selection takes place before the transaction because one party has inadequate information regarding the other party's characteristics. Consequently, moral hazard takes effect after closure of contract. It is defined by engaging in activities that are remote and unknown to the financial

intermediary (Japelli& Pagano, 2005). The financial intermediaries over the years have had to deal with the problem of moral hazard. The borrower may fail to act in good faith and redirect the finances in other activities other than those stipulated in the loan contract. In technical terms, it would mean that the individual client is acting ultra vires.

In Kenya, scholars have tested the moral hazard theory in repayment performance. Ndungo, Olweny, and Memba (2019) used hazard theory in their study and indicated that efficient and inefficient moral hazards exist within the Kenyan environment. Besides, the research shows that efficient moral hazard is manifested when the borrower's action does not lead to a total welfare loss. Thus, the study is evidence of the application of moral hazard theory within the Kenyan credit jurisdiction.

Concerning this study, loan issues to students may sometimes be used for other purposes other than that of schooling. Cases arise in which the loanee cannot be trusted to adhere to their obligation. Failure to comply with the provisions of the contract means that lenders will have problems with raising the needed money to pay back the financial institution.

2.2.2 Adverse Selection Theory

Akerlof (1970) developed the adverse selection theory through the study of quality ambiguity. The scholar developed the theoretical model and concluded that financial markets deal with the problem of quality ambiguity. The theory influences the activities of the different operators in the financial market environment. Therefore, the work developed by Akerlof (1970) explains the lemon principle. The example that was used to

define the policy is in the automobile market. The marketing and sale of cars show the existence of asymmetry in information. Adverse selection in lending results from information asymmetry. According to Nayyar (1990), information asymmetry results from the existence of an imbalance in the level of knowledge between the contracting parties.

In Kenya, adverse selection theory has been studied. Kitao (2016) studied the effect of credit information sharing on the profitability of commercial banks in Kenya. The study determined that high-risk borrowers are willing to take credit and pay a higher interest rate, which leads to adverse selection. The finding of this study corroborates with the results by Ndungo et al. (2019). In the research, the scholars determined that the propensity by the lenders to give credit to high-risk borrowers who are willing to pay high-interest rates is the reason for adverse selection.

Adverse selection theory is relevant to this study. The problem of adverse selection arises due to the inability to audit the desires and motive of the sellers extensively. In financial intermediation, the adverse selection comes into effect when the lender does not understand the motivation of the loanee. HELB uses the simple method of finding information about the loanee. Besides, the environment does not allow the lender to collect information about the loanee effectively. The simplistic way through which lenders are dealing with the problem is through higher interest rates. It is not the best way of dealing with the problem because it may deny an individual with proper credit rating an opportunity to gain access to a loan.

2.2.3. Financial Intermediation Theory

Financial Intermediation Theory was developed due to the existence of a deficit within the financial market. It means that there are demand and supply of finances within the economy. Whereby, the demand side has a shortage of funds while the supply has an excess of funds. The institutions that bring together the demand and supply are known as financial intermediaries. According to Seed (2005), various institutions play the role of financial intermediation, and they include insurance firms, banks, mutual and pension funds. The firms come in deferent ways between two parties and help to facilitate trading. According to Diamond (1984), the intermediaries play a role in creating assets for the creditors and liability for the debtor. It develops an indirect relationship between the parties.

Scholars have studied financial intermediation in Kenya. Tirimba and Oranga (2018), examined the role of financial intermediation performance of banks in Kenya. In the study, it was determined that financial intermediation theory applies to Kenya in terms of access to information or financial literacy, agency banking, and mobile money. Besides, the study concluded that the use of financial intermediation is an essential way through which finances are allocated efficiently. Further, it is necessary to note that some graduates do not have adequate information concerning the financial intermediation role that is performed by financial institutions and the consequence it has on them.

The theory applies to this research because of several factors. First, HELB is an intermediary through whom the Kenyan Government channels funds for financing higher learning to her eligible citizens, and it is tasked with the recovery of the same upon

maturity. Other than the annual recovery amounts and government capitation, the board mobilizes funds from various stakeholders for lending to needy students. The agency plays an intermediation role on behalf of the Kenyan government. The study seeks to establish whether loan defaults are due to financial exclusion among low-income earning graduates.

2.2.4 Portfolio Theory of Loan Performance

The Portfolio Theory was developed in the 1950s. It was considered as the essential mathematical model that explains the performance of loans. Over the years, further researches have been conducted, and varied criticisms have been directed towards the theory. One element that has formed the basis of a critique of the theory is that the financial performance or returns on loans do not follow Gaussian distribution (Sproul, 1998). Therefore, such criticisms call for further empirical studies in this area. Furthermore, the technical aspect of portfolio theory defines assets returns based on the normal distribution, the defined risk using standard deviation, and determines portfolio as a combination of different assets; hence the performance is defined as a weight or combination of different assets (Sproul, 1998). Through creating a combination of several assets that do not have positively correlated returns, the portfolio theory is concerned with the reduction of the total variance within a given portfolio.

Conversely, studies in Kenya have been conducted on loan portfolio theory. Murira(2010) determined that loan portfolios are significant assets of financial institutions. Thus, the performance of the institution depends on the loan portfolio. Also, Mwiroti(2012) determined that the loan portfolio of a lending institution determines the

interest rates and repayment performance. Thus, the studies indicate the effect of loan portfolio theory within the Kenyan jurisdiction.

In the case of this study, HELB is considered as the investor in the loan business seeking returns in the long term. When using the probability model, as was developed by Chirwa (2011), it is easy for an individual to determine the credit risk associated with the performance of small loan holders. The model is concerned with an extensive analysis of loan holders as either defaulter or not defaulters. Different variables that are analyzed in this model of loan performance have been highlighted in this study, and the general idea will be to determine whether they are applicable in the context of HELB defaulters.

2.3 Empirical Review

2.3.1 Loan Size and Repayment Performance

The measure of loan size is the amount of loan advanced to an individual, group, or company account. However, in the case of HELB, the individual account is the central area of focus. Wambugu (2014) studied loan size and the spread of interest rates in Kenya. The study was conducted using survey methodology. The study determined that there is a weak relationship between the size of the loan and the repayment performance. Besides, Mbotu (2010) conducted a survey and concluded that the assumption that larger lending institutions generate big loans is not valid. Also, the disparity was shown through the proportionate representation of the lender's balance sheet. Therefore, it was evident that large lenders can originate small loans.

Consequently, studies were conducted outside Kenya. For instance, Tijani, Zakiya, Arifur Rahman, and Mohammed (2018), surveyed the determinants of loan repayment performance of SMEs in Ghana. The research was conducted through a statistical regression model. It revealed that loan size put forth had a significant adverse effect on the performance of the loans. The study concluded that the higher the volume of loans, the higher the likelihood of poor loan performance (Tijani et al., 2018). However, the study was conducted in an international context. Therefore, because of the differences in the economic environment of Kenya, the outcome may not be applied locally.

Osman and Ramakrishna (2017) did an investigation on the determinants of loan repayment performance in ACSI. The study employed descriptive statistics and a multinomial logit model for the analysis. While loan repayment performance served as the dependent variable, sex, age, education level, loan size, interest rate, loan tenure, training, and monthly sale serve as the independent variables. The study revealed that loan size is significant in predicting loan repayment performance. Welderufael, Tesfatsion, and Gedifew (2015) studied the factors influencing MFIs Group Loan Repayment Performance of MSEs' Service Sector in Mekelle City, Ethiopia. The study made use of a range of statistical techniques. The tests were conducted to determine the relationship between the variables and loan performance. The chi-square is one of the methods that was used. The scholars used up to eleven variables and analyzed them through the chi-square test. The outcome indicated that there was a significant relationship between loan repayment and loan size, peer monitoring, screening, and supervision (Welderufael et al., 2015).

Ojiako, Idowu, and Ogbukwa (2014) investigated the loan repayment performances of smallholder farmers in the Ogun State of Nigeria. The study findings revealed that loan size harms loan repayment performance. The study was conducted using statistical models with a keen interest in the regression analysis of the variables. Study findings from the regression analysis showed that the repayment of loans is based on the amount of money given to the loanee. The larger the sizes of loans, the lower the repayment performance. The study was, however, based on the Nigerian context, where it focused on smallholder farmers in Ogun State. The current research will be focusing on the Higher Education Loans Board of Kenya.

2.3.2 Interest Rate and Repayment Performance

In Kenya, HELB is an arm of government set up for purposes of lending to students. The interest rate charged on the loans is a conspicuous part of the lending process. Wambugu(2014), conducted quantitative research to determine whether loan size affects the interest rate of investments in Kenya. The study concluded that there was a weak and insignificant relationship between the interest rate, loan size, and repayment performance. Consequently, Kariuki and Ngahu (2016) studied the effect of interest rates on loan performance. The study was quantitative and used census design to collect data from thirty-six respondents. The research concluded that lenders should charge reasonable premiums so that they can manage to mitigate the default risk. Besides, the study suggests that lenders should consider tradable assets as collateral so that they can deal with liquidity risk rather than increasing the interest rates.

Additionally, studies have been conducted outside Kenya. Osman and Ramakrishna (2017) researched the factors affecting loan repayment performance in ACSI. The study employed descriptive statistics and a multinomial logit model for the analysis. Age, loan size, sex, education level, interest rate, loan tenure served as the predictor variables where loan repayment performance was the dependent variable. The results from the analysis of the study indicated that interest rate significantly and negatively affects loan repayment performance.

Internationally, Shu-Teng, Zariyawat, Hamim, and Annur (2015) examined the performance of microfinance repayment in Malaysia. The study looked at the characteristics of SMEs in the country concerning repayment. The study used the regression model and determined that there is a positive and significant relationship between loan repayment and the rate of interest charged. However, the study focused on SMEs in Malaysia, unlike this study, which will be focusing on Higher Education Loans Board. Additionally, this study will also make use of moderating factors within the intermediary financial environment. Amare (2015) carried out an empirical analysis of the factors determining loan repayment performance of small-holder farmers in North Gondar, Ethiopia. A total of 15 explanatory variables, including loan size, were considered in the econometric model (Amare, 2015). The study determined that interest rate and loan repayment have a positive and significant relationship. Though in East Africa, the study focused on Ethiopia, unlike this study, which is in Kenya focusing on Higher Education Loans Board.

2.3.3 Loan Tenure and Repayment Performance

Loan tenure refers to the period taken by a loan before it attains its maturity. Munene, Ndambiri, and Wanjohi(2019) used a statistical method to study the effect of unsecured loans on the performance of credit SACCOs in Kenya. The causal research design used loan tenure as one of the specific variables of the study. The study concluded that unsecured bank loans' tenure had an insignificant and negative effect on performance. Consequently, Kirimi (2017) studied debt finance and performance using loan tenure as one of the sub-variables. The study adopted a descriptive method and used statistical measures to determine the relationships between variables. The study concluded that there is a negative relationship between loan tenure and performance of loans. Thus, the two studies conducted in Kenya had a similar conclusion on the effects of the loan tenure.

Besides, studies were conducted outside Kenya. Tesfaye, Tesfatsion, and Kiros (2014) also studied the determinants of loan repayment performance of Debit Credit and Saving Institution (DECSI), Ethiopia. The study employed binary logistic regression to analyse the data. The study revealed that loan size significantly influenced loan repayment performance. The study notably was based on Ethiopia, and due to the different contextual characteristics countries, findings from such studies cannot be applicable to Kenya. Al-Sharafat, Qtaishat, and Majdalawi (2013) assessed the loan-repayment performance of public agricultural credit agencies in Jordan. The study used a descriptive model, and the result of this study further revealed that loan tenure has positive effects on loan repayment. Internationally, Roslan and Mohd (2009), undertook a survey of the determinants of loan repayment among microcredit borrowers in Malaysia by dividing determinants into three categories- characteristics of borrowers, attributes of the project

or business, and the features of the loan. The study used a quantitative model, and the result indicated that the probability for loan repayment default was influenced by loan tenure. Notably, the study was based on microcredit borrowers in Malaysia; the current study will be based on HELB in Kenya which lends to students for purposes of paying school fees and bursaries.

2.3.4 Unemployment on Repayment Performance

The moderating element of the study is unemployment. It is labeled as the variable (z) and changes the relationship between the predictor and the outcome. In this case, unemployment is utilized to define the elements that predict loan performance. The idea is to determine how the moderator affects the strength and direction of the variables. Kipkech(2011) studied the reasons for loan default among HELB loanees. The study used the statistical approach and sampled students for the survey. The study concluded that HELB would continue to face an uphill task in the process of loan recovery because of the increase in underemployment and unemployment in the country. Conversely, Kimani(2011) studied the determinants of loan recovery in student financing. The study used the survey methodology and determined that the level of non-performance stood at 45 percent because of several factors. Unemployment among the loanees was one of the factors that affected loan performance.

Göçer (2013) studied the relation between Bank Loans and unemployment in the European Countries. In the study, it was determined that credit increases a reducing effect on the unemployment rate in the countries. However, the study was limited to the European environment. In the Kenyan context, Onchomba (2015) studied economic

factors that lead to non-performing loans and determined that the rate of unemployment would lead to a positive increase in the level of non-performing loans. The study employed census research design in the development of the research model. It is an indication that without salary, an individual can't pay the mortgage and any other form of a loan.

Nganga (2016) studied the effect of economic factors on non-performing loans and studied the commercial banks in Kenya. Using descriptive research method, the study determined that the proportion of gross non-performing loans varies with changes in the independent variables. At the same time the trend was decreasing with decrease in nature over the period in which data was collected. The outcome of the studies highlighted above are indicative of the fact that the studies sought to determine the effect of unemployment as a moderating factor since it is influenced by the external environment in which the business entity operates.

2.4 Summary of Literature Review and Research Gaps

This section contains a review of previous studies while identifying the various research gaps and how these gaps will be filled.

Table 2.1: Summary of Literature Review and Research Gaps

| Author(s)/Year | Title | Findings | Research Gaps | The focus of the Current Study |
|------------------------------|--|--|---|---|
| Tijani <i>et al.</i> (2018). | The determinants of loan repayment performance of SMEs in Ghana. | The study revealed loan size and interest rate significantly and negatively influence on loan repayment performance | The study was based on SMEs in Ghana which is profit-making organizations | This study focused on HELB, Kenya |
| Osman and Ramakrishna (2017) | The determinants of loan repayment performance in ACSI. | The study revealed that loan size, loan tenure and interest rate are significant in predicting loan repayment performance. | Did not consider operating environment and its moderating effect on the relationship between loan characteristics | Examined the moderating effect of operating environment on the relationship between loan characteristics and loan performance |

| | | | | |
|-----------------------------------|---|---|---|---|
| | | | and loan performance | |
| Shu-Teng, <i>et al.</i> (2015)... | The determinants of microfinance repayment performance among Small Medium Enterprises in Malaysia | The result documented that amount of loan and loan tenure have significant relationship with loan repayment | The study was based on SMEs in Malaysia | This study based on HELB in Kenya |
| Al-Sharafat <i>et al.</i> (2013). | Loan characteristics and loan-repayment performance of public agricultural credit agencies in Jordan. | The result of this study further revealed that loan tenure has positive effects on loan repayment | The study focused on credit Agencies in Jordan, | The current study focus on Higher Education Loans Board of Kenya. |
| Nganga (2016) | The Effect of Economic Factors on Non-Performing Loans: Case of Commercial | Determined that the proportion of gross non- | Did not specifically study unemployment | The current study focus on unemployment as a moderating |

| | | | | |
|---|---|---|---|--|
| | Banks in Kenya | performing loans varies with changes in the independent variables | as a moderating variable but analyzed it as an economic variable in itself | variable |
| Machogu, Shisia, Nzioki & Kiplimo(2017) | AN EMPIRICAL ASSESSMENT OF MONTHLY DEFAULT PENALTIES AS A DETERRENT MEASURE OF DEFAULT ON HIGHER EDUCATION LOAN RECOVERY IN KENYA | The study determined that the high rate of unemployment increase the rate of non-performance of higher education loan | The study did not cover other factors such as interest rate, loan tenure, and loan size | The current study use unemployment as a moderating variable |
| Tirimba& Oranga(2018) | Effect of Financial Inclusion on Financial Performance of Banks Listed At the Nairobi Securities Exchange in | The study used financial intermediation theory in the analysis of | However, the study did not cover other aspects such as loan tenure, | The study elaborated on the concept of financial inclusion and the |

| | | | | |
|----------------------|---|---|--|--|
| | Kenya | financial inclusion | unemployment in loan performance | repayment performance of loans |
| Mwiroti, S. (2012) | The Effects of Lending Rate Policy on the Loan Portfolio of Commercial Banks in Kenya | The lending or interest rate is the main element covered in the study | The study did not look at the other aspects other than the interest rate | This study expanded beyond the interest rates and included other factors |
| Kariuki& Ngahu(2016) | Effect of interest rates on loan performance of microfinance institutions in Naivasha sub-county, Kenya | The study focused on the interest rate and the impact on loan repayment | The research did not focus on other elements of loan characteristics | Therefore, this study focused on the different loan characteristics other than the interest rate |

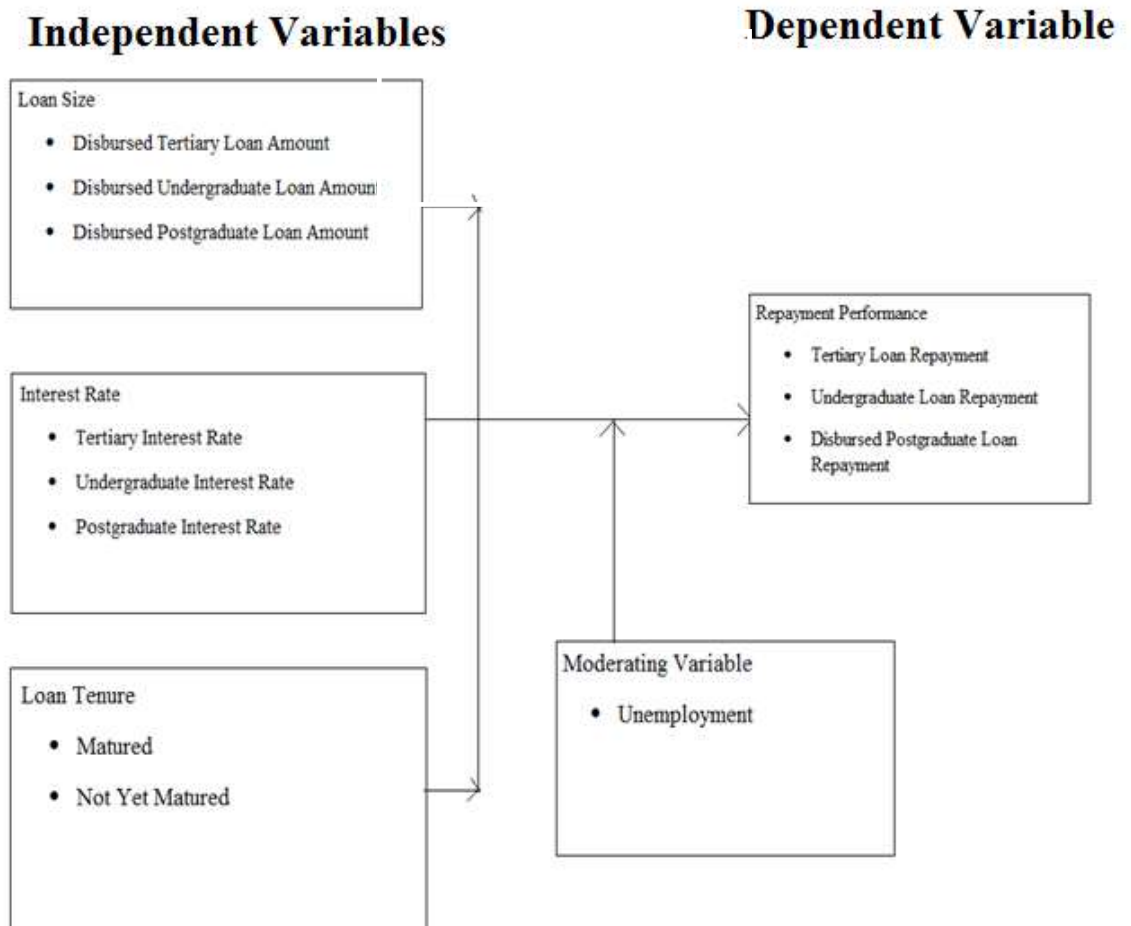
Source: Researcher, 2019

The review of studies reveals various research gaps that stem from contextual to conceptual gaps. The current study seeks to investigate the effect of loan characteristics on loan performance and the moderating effect of the operating environment on the relationship between loan characteristics and loan performance at the Higher Education Loans Board in Kenya.

2.5 Conceptual Framework

The conceptual framework depicted the relationship among the study variables, loan characteristics, as indicated by loan size, interest rate, and loan repayment period and loan performance. The external environment as measured by unemployment rate served as the moderating variable in the study.

Figure 2.1: Conceptual Framework.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides details on the methodology used in the study. It comprises the research design, target population, data collection instruments, and data analysis.

3.2 Research Design

In this section, the research design provides an outline plan which is adopted in the study by a researcher to generate answers to research questions (Cooper &Schindler, 2009). An explanatory research design was adopted in this study since it helps in dealing with other studies that were not well done before. This design was chosen for this research since it demands more priorities, generates the operational definitions, and creates a model that is properly researched. Moreover, an explanatory research design enables analysis and association of variables based on detailed examination of their relationship.

3.3 Target Population

The population of the study included the total elements of interest in research (Cooper&Schindler, 2009). The target population of the study comprised of loan performance data for the Tertiary, Undergraduate, and Post Graduate loanees for the period 2009-2018.

3.4 Sampling.

The study adopted a census technique where all the data elements provide by HELB for the years under study were analyzed. Due to the nature of this study, it was not possible to create a sample. Information about all sets of loanees was used in the study.

3.5 Operationalization and Measurement of Variables

The critical variables in the study included the independent variables; loan tenure, loan size, and interest rate. The dependent variable was repayment performance. The variables play an essential role, as shown in the conceptual framework

Table 3.1: Operationalization of the Research Variables

| Type | Indicator | Operationalize | Measurement | Research Questions |
|-------------|----------------------|---------------------------------------|----------------------|--------------------|
| Independent | Loan Size | · Disbursed Tertiary Loan Amount | Amount Recorded | Table 1 Appendixes |
| | | · Disbursed Undergraduate Loan Amount | | |
| | | · Disbursed Postgraduate Loan Amount | | |
| Independent | Interest Rate | · Tertiary Interest Rate | Interest Amount | Table 2 Appendixes |
| | | · Undergraduate Interest Rate | | |
| | | · Postgraduate Interest Rate | | |
| Independent | Loan Tenure | · Matured | Number of Years | Table 3 Appendixes |
| | | · Not Yet Matured | | |
| Moderating | | Unemployment | Number of Unemployed | Table 4 Appendixes |

3.6 Empirical Model

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \epsilon_{it} \dots \dots \dots \text{Model 1}$$

Where: i-Refer to Tertiary, Undergraduate and Post Graduate HELB loanees.

t-2009-2018

Y –Loan performance for Tertiary, Undergraduate, and Post Graduate HELB loanees.

β_0 - Constant

X_1 – Loan size.

X_2 – Interest rate.

X_3 – Loan tenure.

$\beta_1 - \beta_4$ = Regression coefficients

ϵ = Error term

The moderating variable is represented by model 2 and 3 provided below.

$$Y = \beta_0 + \beta_1 X + \epsilon \dots \dots \dots \text{Model 2}$$

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 M + \beta_3 X * M + \epsilon_{it} \dots \dots \dots \text{Model 3}$$

Where

Y= Loan performance (Dependent Variable)

X = Loan characteristics (Independent Variable)

M= Operating environment (Moderator)

X*M=Interaction term

3.7 Data Collection

The study adopted secondary data to make inferences and conclusions about the study population. Document analysis of HELB statistics (specifically financial data annual disbursement and recovery reports) was used. The data on the unemployment rate was

obtained from Kenya National Bureau of Statistics. The data was collected using a document review guide (Appendix II).

3.8 Data Analysis

The data was analyzed using Statistical Package for Social Sciences (SPSS). Data collected comprised of loan performance data for the Tertiary, Undergraduate and Post Graduate loanees for the period 2009-2018. The inferential analysis was utilized in the study. The inferential statistics (Panel regression analysis and Correlation analysis) was carried out.

3.9 Diagnostic Tests

These tests are usually necessary in ensuring that there is no violation of the Classical Linear regression model (CLRM) assumptions. Any violation of these assumptions makes the estimates to be inefficient, biased and inconsistent (Gujarati, 2003). The tests to be carried out are; Heteroscedasticity, Multicollinearity, and Autocorrelation and panel unit root test.

3.9.1 Normality Tests

The assumption ($u_t \sim N(0, \sigma^2)$) was needed for the purpose of conducting a single or a joint hypothesis test about the model parameters. In checking the normal distribution of data, two steps were used. Firstly, normal probability plots is going to be used thus a deviation systematically from a straight line means that the data is not normally distributed (Das and Imon, 2016). Conversely, where the plots are plausibly close to the line the data is going to be considered to be normally distributed. Secondly, in certain

scenarios, establishing the normal distribution by looking at scatter plots can be hard therefore Bera and Jarque (1981) normality test was performed. The examination tested the null hypothesis as disturbances not being normally distributed. Where the p-value obtained is less than 0.05, the null of normality at the 95% confidence level is going to be rejected.

3.9.2 Multicollinearity.

A correlation matrix was used in testing for Multicollinearity with the threshold being 0.8 as measured using the correlation coefficient (Katrutsa and Strijov, 2017). The results that violate the threshold often result in large standard errors which tend to affect the accuracy and precision for the failure to reject or rejection of a null hypothesis. A correlation coefficient more than 0.8, is a clear indication of the existence of multicollinearity.

3.9.3 Autocorrelation

This test was conducted due to the fact that the data used had an element of both the cross sectional and time-series, hence raising doubt on the absence of serial correlation. The existence of serial correlation is a sign of a violation of the regression assumptions (Setyawati, Suroso, Suryanto and Nurjannah, 2017). Woodridge test for autocorrelation was utilized. As stated by Born and Breitung (2016), if the serial correlation is neither identified nor accounted for, the consequence will be an idiosyncratic error term in a panel model causing inefficient and biased standard errors in the parameter estimates. The null hypothesis is that there is no serial correlation in the data.

3.9.4 Heteroscedasticity

When dealing with a cross sectional data, the existence of heterosdasticity is more likely. The Classical Linear Regression Model (CLRM) is based on the assumption that the error term is homoscedastic, meaning that it has constant variance. In case the error variance isn't constant, Heteroscedasticity is present in the data. Running a regression model without testing for heteroscedasticity can result in an unbiased parameter estimate. Breusch Pagan and Godfrey test was utilized in undertaking this test. The null hypothesis assumes the homoscedasticity of the error variance. A rejection of the null hypothesis will lead to the next step that entails running a FGLS model.

3.9.5 Test for Fixed or Random Effects

The panel unit root test allows the researcher to utilize fixed effects and time trend in the study (Setyawati et al., 2017). It makes assumptions about the number of panels and the asymptotic assumption within the panel (Setyawati et al., 2017). In conducting a panel data analysis, it is always a must to determine whether to use fixed or random effect model. While the fixed effect model makes an assumption on intercepts of firm characteristics alongside incorporating the impact of those variables that are explicit to individual firm and constant over time, the random effect model will run from a point of the existence of a single common intercept that tend to vary randomly from one firm to another (McNeis and Stapleton, 2016). Therefore, in models estimation, it is imperative to determine the existence of a correlation among the independent variables and where such correlation do exist, we use the fixed effect, otherwise the random effect is going to be used in finding out which model to use, a Hausman test (1978) was used. The null hypothesis sets random effect model as the preferred model with the alternative being set

to fixed effect. In deciding which model to use a p value of 0.05 and less leads to the rejection of the null hypothesis in which case a fixed effect is used; if p value is more than 0.05, the null hypothesis is not rejected hence used. The STATA version 14 will be used in the estimation of the above models.

Hausman test results determines that fixed effects model is suitable; the researcher ensured that the time-fixed effects in the estimation are included. This helped in testing if the dummies for all years are equivalent to 0 so that if they are not equivalent to 0, then there will be no time fixed effects in specification of the model to be estimated (Daly, Dekker & Hess, 2016).

3.10 Ethical Considerations

Research ethics are norms and standards which are anticipated to be observed in a research study. Researchers are encouraged to conform to ethical norms. The research was guided by rules and regulations governing research in Kenyatta University and Kenya at large. Also, the researcher avoided unscrupulous practices such as fabrication, prevarication and plagiarism. The authors of all materials used in the study were accordingly recognized. Researcher first obtained a research permit from CEO, HELB at the Ministry of Education so that they were legally authorized to execute research & collect data. Lastly, a research permit was obtained at NACOSTI before the data collection process.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

The chapter covers analysis of collected data and interpretations attached to the findings. The data analysis is divided into two parts; diagnostic and substantive tests and chapter summary. The results are related to loan characteristics and their effect on loan performance. The findings and results are analyzed in line with the literature and conceptual framework.

4.2 Diagnostic Tests

This section covers the diagnostic tests which include test for normality, multicollinearity test, autocorrelation test, heteroscedasticity test, and Hausman test.

4.2.1 Normality Test

The data used in the study was checked for normal distribution. Parametric statistics demands that dependent variable data should be normally distributed for every category of independent variable. The loan performance must be normally distributed for each category of loan characteristic. The numerical and visual outputs that were investigated were the z values of Kurtosis and Skewness. The rule of thumb is that it should be between -1.96 and +1.96. Shapiro Wilk value is expected to be above 0.05 and the plots should show that the data is normally distributed. The table below is a summary of test for normality.

Table 4.1 Shapiro Wilk Test on Loan Performance

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-----------------|---------------------------------|----|-------|--------------|----|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Performing Loan | .266 | 10 | .043 | .839 | 10 | .043 |
| Annual Recovery | .132 | 10 | .200* | .921 | 10 | .362 |
| Loans Disbursed | .149 | 10 | .200* | .925 | 10 | .400 |
| Matured | .170 | 10 | .200* | .910 | 10 | .282 |
| NYM | .171 | 10 | .200* | .906 | 10 | .253 |

All the p values of annual recovery, loans disbursed, matured loans, and loans yet matured are above 0.05. This means that we keep the null hypothesis. The Shapiro Wilk data indicates that we can assume that our data is approximately normally distributed.

4.2.2 Autocorrelation Test

The study employed autocorrelation test using the loan characteristic elements. The study employed the Dubin Watson Statistic test to determine the absence or presence of serial correlation. According to Durbin and Watson (1951), d is approximately equal $2(1-r)$ therefore, when $d = 2$ there is autocorrelation. In conducting the autocorrelation test it is expected that the value of d will be between 0 and 4. If the value is below two it means that there is serious case of correlation. When the value is below 1 it means that there is reason for researcher to worry (Durbin and Watson, 1951).

From the table below, it is evident that the Durbin Watson statistic was at 2.08. The value falls between 1.5 and 2.5 hence it is true to indicate that there is no positive and negative serial correlation within the data.

Table 4.2: Results of Autocorrelation Test on Loan Performance

| Model | R | R Square | Adjusted Square | R | Std. Error of the Estimate | Durbin Watson |
|-------|------|----------|-----------------|---|----------------------------|---------------|
| 1 | .233 | .0582 | .0530 | | 4297.497 | 2.081 |

4.2.3 Multicollinearity Tests Results

Multicollinearity test was conducted to determine whether the correlation between variables is too high to cause problems in the process of fitting the model and interpretation of results. The study used Value of Tolerance Analysis method to determine multicollinearity. The problem of multicollinearity occurs if VIF is greater than 10.

Table 4.3 Results for Multicollinearity Test.

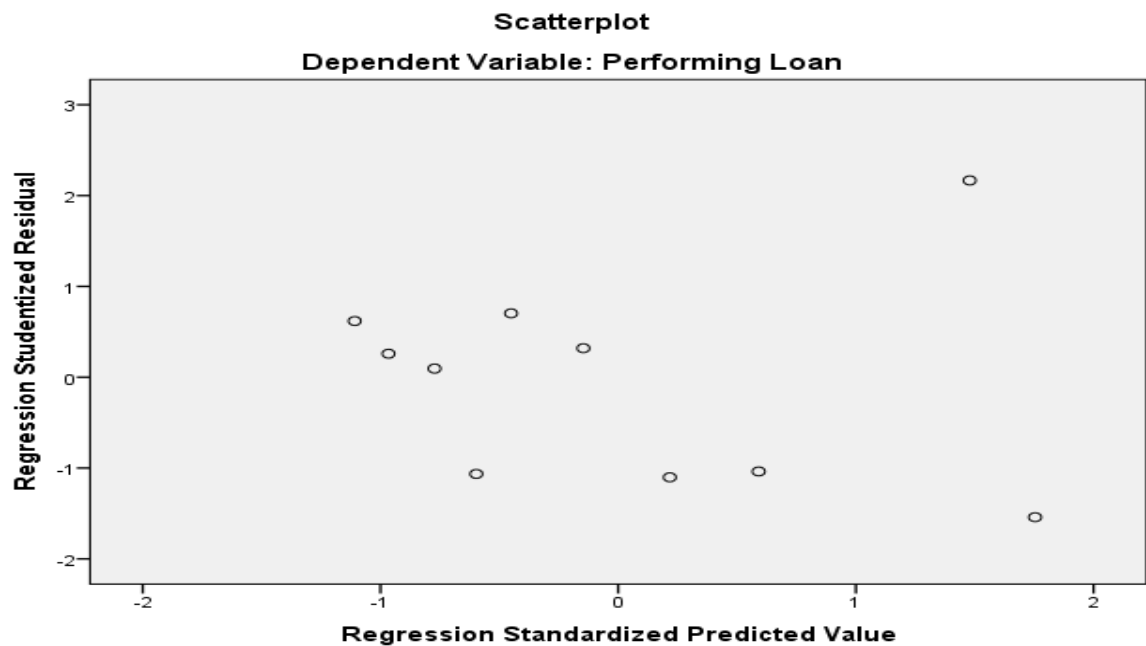
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---------------------------------|-----------------------------|----------------|---------------------------|-------|------|-------------------------|---------|
| | B | Std. Error | | | | Tolerance | VIF |
| (Constant) | 7646348760.251 | 2148317921.375 | | 3.559 | .016 | | |
| Matured | -.615 | .207 | -4.107 | 2.964 | .031 | .011 | 87.706 |
| 1 NYM | -.173 | .086 | -2.360 | 2.012 | .100 | .016 | 62.831 |
| Annual Recovery Loans Disbursed | -.035 | .352 | -.048 | .099 | .925 | .092 | 10.871 |
| | 1.490 | .473 | 7.067 | 3.149 | .025 | .004 | 229.990 |

The multicollinearity data above shows that there is a problem of collinearity. Most VIF values are above 10 meaning that it is important to get rid of data that is highly correlated. It means that the regression coefficients are poorly estimated due to multicollinearity.

4.2.4 Heteroscedasticity

Heteroscedasticity test was conducted as part of tests that are performed in any regression model. The idea behind the test is to determine whether there is particular pattern within the data. The idea is to see the pattern between the predictor and dependent variables of the study. The figure below shows that the data elements are scattered and they do not create any particular pattern. The study concluded that the regression did not show any form of heteroscedasticities problem.

Figure 4.1: Heteroscedasticity Outcome of the data pattern.



4.2.5 Hausman Test

The Hausman Test was conducted to determine the equality with and between the cluster slopes. The technique was used in determination of whether to use random effect model or fixed effect model. The determination is important because the data comprises of both time series and cross section data elements. The hypothesis developed for the study was that the applicable model is random effect model. Using e-view as the analysis software it was determined that random effect model was the ideal model as per the outcome illustrated in Table 4.4 below.

Table 4.4: Random Effects Test

| | | Chi-Sq. Statistic | Chi-Sq. d. f | Probability |
|--------|---------|-------------------|--------------|-------------|
| Cross | Section | 3.1025 | 3 | 0.2454 |
| Random | | | | |

4.3 Inferential Tests

4.3.1 Regression Analysis Tests

To determine the relationship that exist among the variables the study conducted linear and multiple regression. The reason behind this analysis was to determine the changes in loan performance in relations to the variables under study.

4.3.1.1 Regression Results of Loan Size on Loan Performance

The study used simple regression analysis in order to determine the linear relations between loan size and loan performance. The simple linear equation used was $LP = \alpha_0 + \alpha_1 LS + \epsilon$

Table 4.5 Regression Results of Loan Size on Loan Performance

| Model | R | R Square | Adjusted Square | R | Std. Error of the Estimate |
|-------|------|----------|-----------------|---|----------------------------|
| 1 | .763 | .582 | .530 | | 429705207.497 |

Based on the model summary above, the R squared is .53 which indicates that more than half of loan performance is explained by loan size. 53 percent of loan performance is explained by loan size. R provides evidence of direction and strength of the variables. The Pearson correlation R was large (.763) indicating that there is a strong positive correlation between loan size and loan performance.

An ANOVA analysis was carried out to determine the significance level of loan size on loan performance. The null hypothesis is that there is no relationship between loan size and loan performance. Table 4.6 shows the ANOVA test outcome for the two variables. The Sig. 0.010 is less than 5% significant value. Therefore, reject the null hypothesis and accept the alternative hypothesis which indicates there is significant contribution of loan size towards loan performance.

Table: 4.6 ANOVA Test

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|---------------------------------|----|---------------------------------|--------|-------------------|
| | Regression | 2058606199 819794690.0 00 | 1 | 2058606199 819794690.0 00 | 11.149 | .010 ^b |
| 1 | Residual | 1477172522 800137980.0 00 | 8 | 1846465653 50017248.00 0 | | |
| | Total | 3535778722 619932700.0 00 | 9 | | | |

The regression coefficient table below shows that at coefficient of .161 loan size is a good predictor of loan performance. The coefficient model was given as shown in the table 4.7 below.

Table 4.7: Regression Coefficient Results of Loan Size on Loan Performance

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 9.536 | 7.946 | | 1.708 | .126 |
| Loans Amount | .161 | .048 | .763 | 3.339 | .010 |

The outcome above is in line with findings in other studies which determined that loan size is an important predictor of loan performance. The studies include Osman and Ramakrishna (2017); Welderufael, Tesfatsion and Gedifew (2015); Tesfaye, Tesfatsion and Kiros (2014); and Al-Sharafat et al., 2013. However, the above finding is contradicted by Tijani et al. (2018).

4.3.1.2 Regression Results of Interest Rates on Loan Performance

The analysis on interest rate on loan performance did not show any form of relationship. The study established elements of multicollinearity which was being caused by the interest rate data. The data for interest rate is constant hence it shows missing correlations as illustrated in table 4.8 below.

Table 4.8 Regression Findings on Interest Rates on Loan Performance

| | | Performing Loan | Post Grad Interest | Undergrad Int |
|---------------------|--------------------|-----------------|--------------------|---------------|
| Pearson Correlation | Performing Loan | 1.000 | . | . |
| | Post Grad Interest | . | 1.000 | . |
| | Undergrad Int | . | . | 1.000 |
| Sig. (1-tailed) | Performing Loan | . | .000 | .000 |
| | Post Grad Interest | .000 | . | .000 |
| | Undergrad Int | .000 | .000 | . |
| N | Performing Loan | 10 | 10 | 10 |
| | Post Grad Interest | 10 | 10 | 10 |
| | Undergrad Int | 10 | 10 | 10 |

The study finding above has certain implications. First it contradicts the outcome of studies that had been conducted and determined that interest rates have significant and negative effect on loan performance (Osman and Ramakrishna, 2017; Shu-Teng et al., 2015). Perhaps the difference could be based on the fact that interest rates charged annually in the countries studied above kept fluctuating hence provided a trend used for the study.

4.3.1.3 Regression Results on Loan Tenure on Loan Performance

The analysis of loan tenure on loan performance indicated that correlation coefficient, R was positive .808. There is strong and positive correlation between the dependent and independent variable. 65.3 percent of loan performance is explained by loan tenure. The adjusted R square shows that other factors other than loan tenure explains 55.4 percent of loan performance. The results are showed in the table 4.9 provided below

Table 4.9: Regression Finding of Loan Tenure on Loan Performance

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .808 ^a | .653 | .554 | 7.588 |

The ANOVA table indicated an F Statistics of 6.55 which helps the research to determine the explanatory ability of the model. The p value (sig) was .025 which is less than .05 (significant value). It was determined that there is strong correlation between loan tenure and loan performance.

Table 4.10: ANOVA Results of Loan Tenure on Loan Performance

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|-------------------------|----|-------------|-------|-------------------|
| 1 | Regression | 2310334080935012400.000 | 2 | 180.000 | 6.599 | .025 ^b |
| | Residual | 1225444641684920320.000 | 7 | 912.000 | | |
| | Total | 3535778722619932700.000 | 9 | | | |

The table 4.11 below shows the coefficients loan tenure and loan performance. The significance value was .058 for yet to mature and .545 for matured. The results show that yet to mature loan is significant while matured loan tenure is not significant. Further,

positive beta of 1.05 in not yet matured loans indicates that one unit increase in yet to mature loan leads to an increase in loan performance by .078 units.

Table 4.11: Regression Coefficient Loan Tenure on Loan Performance

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 5.982 | 9.809 | | 1.312 | .231 |
| 1 Matured | -.044 | .070 | -.296 | -.636 | .545 |
| NYM | .078 | .034 | 1.056 | 2.268 | .058 |

The outcome of this study is in line with Osman and Ramakrishna (2017) who determined that the period of loan repayment plays a significant role in loan performance. Other scholars who researched the above area and had similar outcomes include Al-Sharafat, Qtaishat and Majdalawi, 2013; Onyeagocha et al., 2012; Roslan and Mohd, 2009.

4.3.1.4 Correlation Results

Loan characteristic on loan performance were investigated based on three determinants: loan size, interest rate and loan tenure. The result obtained from the study shows that interest rate and loan performance could not be measured because the value of interest rate was constant. Further, it was determined that the relationship between loan size and loan performance was negative (-.010) and there was positive relation between loan tenure and loan performance (.062). The result is summarized in table 4.12 below.

Table 4.12: Correlation Matric Table Results

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions | | |
|-------|-----------|------------|-----------------|----------------------|-----|-----------------|
| | | | | (Constant) | NYM | Loans Disbursed |
| 1 | 1 | 2.866 | 1.000 | .01 | .00 | .00 |
| | 2 | .128 | 4.737 | .67 | .03 | .01 |
| | 3 | .006 | 21.004 | .31 | .97 | .99 |

4.3.2.2 Results on Multiple Regression Coefficients Model**Table 4.13: Regression Coefficient Outcome of Loan Characteristics on Loan****Performance**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-----------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 9.921 | 1.842 | | 1.963 | .090 |
| 1 NYM | .062 | .063 | .843 | .990 | .355 |
| Loans Disbursed | -.010 | .179 | -.049 | -.058 | .956 |

Multiple regression is carried out to determine combined relationship between loan characteristic elements and loan performance. It means that the regression model has more than one independent variable explaining the dependent variable.

The coefficient model has considered loan size and loan tenure as the two predictors in the model. The Interest Rate was constant hence was considered as a non-predictor due to multicollinearity. The values from regression model (Table 4.13) coefficients of loan size (loan disbursed) and loan tenure (Not yet Mature) -.010 and .062 respectively. The constant was 9.921. Therefore, the model equation is shown below:

$$Y = 9.921 + .062LT - .010LS \text{ where } LT \text{ (Loan Tenure) and } LS \text{ (Loan Size)}$$

The null hypothesis in terms of significance of the outcome is that there is no significant relationship between loan characteristics and loan performance. Sig. value for each variable is above .05 meaning that there is no reason to reject the null hypothesis.

4.3.2.3 ANOVA Result Model Summary

Analysis of Variance (ANOVA) showed that correlation of coefficient R for loan size and loan tenure were negative and positive at -0.531 and 0.212 respectively. It implies that an increase in loan size and leads to reduction in loan performance while an increase in loan tenure leads to increase in loan performance. The proportion of loan performance that is explained through loan size was 28.4% and adjusted R Squared was 34.5%. The results are further illustrated in the table below.

Table 4.14: ANOVA Result Model Summary

| | R | R Square | Adjusted Square | R | Std. Error of the Estimate |
|-------------|--------|----------|-----------------|---|----------------------------|
| Loan Size | -0.531 | 0.345 | 0.284 | | 2.890 |
| Loan Tenure | 0.212 | 0.186 | 0.354 | | 6.673 |

4.4 Tests of Moderator

The study sought to determine the moderating effect of unemployment on loan characteristics and repayment performance.

The model summary table 4.15 is the basis of measuring change in R square. The change statistics in model 2 was applied to determine the statistical significance of the term and

to determine whether unemployment moderates the effects of loan characteristics on loan performance. The illustration is provided in the table below.

Table 4.15: Model Summary of Effect of Unemployment

| Model | R | R Squared | Adjusted R Square | Std. Error of Estimate | R Squared Change | Change Statistics | | | |
|-------|--------------------|-----------|-------------------|------------------------|------------------|-------------------|-----|-----|---------------|
| | | | | | | F Change | df1 | df2 | Sig. F Change |
| | | | | | | | | 12 | |
| 1 | 0.568 ^a | 0.6524 | 0.6124 | 10.123 | 0.06865 | 101.231 | 3 | 5 | 0.002 |
| | | | | | | | | 12 | |
| 2 | 0.652 ^b | 0.7865 | 0.8145 | 8.452 | 0.0452 | 97.215 | 2 | 4 | 0.001 |

Change in R Square indicates that there is an increase in variance which is due to changes in R^2 which is the interaction factor. R^2 change is 0.0575 and it represents a percentage increase (5.7%) in variation explained by the inclusion of moderating terms (unemployment). Using $p < .001$ as the base line, it is evident that the increase is statistically significant. It is evident in the last column of the table above. The table shows that interaction between loan characteristics and loan performance is further explained by an additional 6% in changes in levels of employment in economy while another 7% of the interaction is explained through first order.

Table 4.16: Moderation Coefficients of Unemployment on Loan Performance

| Model | Unstandardized Coefficients | | T | Sig. | 95% Confidence Interval for B | |
|------------------------|-----------------------------|------------|-------|-------|-------------------------------|-------------|
| | Beta | Std. Error | | | Lower Bound | Upper Bound |
| (Constant) | 54.234 | 36.675 | 0.466 | 0.002 | 32.341 | 40.234 |
| 1 Loan Size | 0.234 | 32.327 | 0.037 | 0.21 | 3.378 | 4.345 |
| Interest Rate | 31.456 | 9.567 | 1.071 | 0.023 | 21.901 | 26.234 |
| Loan Tenure | 23.234 | 7.467 | 0.675 | 0.010 | 10.235 | 11.234 |
| Unemployment (z score) | 9.342 | 3.234 | 2.443 | 0.020 | 2.234 | 2.345 |
| 2 (Constant) | 70.134 | 41.340 | 0.685 | 0.040 | 36.92 | 37.347 |
| Loan Size | 10.881 | 26.234 | 0.452 | 0.221 | 0.012 | 0.1234 |
| Interest Rate | 21.231 | 6.231 | 2.073 | 0.011 | 8.232 | 10.234 |
| Loan Tenure | 1.254 | 0.876 | 1.250 | 1.354 | 1.3541 | 1.545 |
| Unemployment (z score) | 27.123 | 12.231 | 2.125 | 0.001 | 0.086 | 0.0866 |

Application of descriptive statistic is important form of verifying that loan size variable was given proper codes and that the loan size variable had mean of 0 and standard dev. of 2.03. Further, the correlation among the variables showed that the standardized continuous variable was not highly correlated. From the output, it is evident that interest rate was not significant because it had t value of 1.071. Consequently, the t value for unemployment is more than 2 hence it is significant. The unstandardized regression coefficient for unemployment is .021 which is an indication of existence of positive relationship between unemployment and loan characteristics. The z score being close to 1 means that there is positive relationship between moderator variable and the performance of loans. The model equation is shown below.

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 M + \beta_3 X * M + \varepsilon_{it} \dots \text{Model } 3$$

$$Y_{it} = 60.124 + (9.967967 \times \text{Loan Size})_{it} + (11.234 \times \text{Loan Tenure})_{it} + (1.134 \times \text{LT})_{it}$$

The study results show that loan size and loan tenure have significant effect in loan performance. Loan interest has no effect on loan performance due to the fact that it is constant over the years studied.

Even though other studies did not use unemployment as moderating factor, the determined that level of employment has a significant impact on loan performance. Onchomba (2015) determined that without employment it is not possible for an individual to process mortgage. The same outcome was determined by Nganga (2016) where it was determined that non-performing loans increased with an increase in the number of unemployed people.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter below provides the summary of the findings, conclusion and suggestions for future studies and implication on development of policies around loans. The sections have been divided into summary, conclusions, recommendations, and suggestions for future research.

5.2 Summary

The study findings have been summarized in this section based on the variables under study. The summary of the study is divided into loan size, interest rate, loan tenure, and unemployment.

5.2.1 Loan Size

The study determined that loan size is explained by the amount of loan disbursed to the students both at undergraduate and graduate levels. It was determined that amount of loan disburse significantly influenced the performance of loans. The study determined that when the amount of loan disbursed is high, the loan size is also high hence the effect on loan performance.

5.2.2 Interest Rates

The study collected interest rates over the past ten years for graduate and undergraduate students. The interest rates over the years were constant at 14% (graduates) and 12% for

undergraduates. The constant rate meant that it was not possible to determine the effect of the interest rate on performance. Therefore, the study eliminated this variable from the model.

5.2.3 Loan Tenure

The study separated loan tenure into two sections; matured and yet to mature loans. The period it takes to pay loan plays an important part in performance of loan. The study determined that the longer the loan tenure the lower the performance of loans. The negative relationship between the variables proved this point as illustrated in the analysis section.

5.2.4 Unemployment

The study found out that unemployment has positive and significant effect on loan performance. The study determined that unemployment rate was an effective moderating factor on loan performance and loan characteristic elements. It means that when the number of unemployed people in the country increases the level of loan performance goes down. The relationship between unemployment and loan performance is negatives and significant.

5.3 Conclusions

The section below provides an overview of the conclusions that were drawn from the study. The conclusion is provided in order of the objectives of the study which includes loan size and loan performance, interest rates and loan performance, loan tenure and loan performance, and unemployment's moderating effect on loan performance.

5.3.1 Loan Size

Loan size was found to significantly affect loan performance at HELB. The element of loan size that was used in the study was loan disbursed annually to the students. The study indicated that an increase in size of loan had negative and significant impact on loan performance in terms of recovery. The other factor that was not directly analyzed but could have played a significant role in determining the size of loan is the number of loanees per annum.

5.3.2 Interest Rates

The study determined that interest rates do not play a significant role in loan performance. The main reason behind the situation above is that the interest rate remains the same across the years for both undergraduate and graduate loanees. Perhaps if the interest rates would be fluctuating from one years to another, it would have been possible to conduct trend analysis. Therefore, the study determined that interest rate was not effective in creation of the linear model.

5.3.3 Loan Tenure

The study found out that loan tenure had a significant effect on loan performance. The study relied upon loan maturity as the basis of discussing the element of loan tenure. The two forms of loan tenure were matured and not yet matured loans. The study determined that matured loan was not predictive of loan performance, therefore, it was dropped from the model. Not yet matured loan was predictive hence it was used in the model of study.

5.3.4 Unemployment

Unemployment was applied in the study as a moderating variable. The study determined that unemployment is a moderating factor between loan characteristic and loan performance. It is an indicator to the fact that students holding loans that should be paid have no capacity to remit the payments when they are unemployed. The ability to finance any loan is based on an individual's income. Employment is one of the ways through which an individual can earn money to pay back the loan.

5.4 Recommendations

5.4.1 Policy-Makers

It has been established that interest rates charged on loans are not critical in decision making with regard to loans. Over the years, policy makers have grappled with suggestions that interest on higher education loans should be scrapped. The study has shown that it is not a determinant in terms of loan performance since it is a constant factor.

Further, it has been determined that unemployment is one of the factors that affect loan performance. The role of the government and the private sector is to create policies that lead to job creation in the economy. Low levels of loan performance in the country can partially be attributed to unemployment. Policies developed by the government must be geared towards creating employment.

5.4.2 Practice

Loan size was identified as an important factor that influences loan performance. It is expected that policy makers at the government agencies should make use of actuarial science to determine the most ideal loan amount that can serve the needs of the students and can be financed with ease after the student has completed studying.

Loan tenure has been identified as a significant factor in determining performance of loans at HELB. Policy makers must make use of loan tenure as part of programs being created to improve loan performance at HELB. The maximum number of years it takes to pay back loan vary from one jurisdiction to another; however, it is best to hold loan for the shortest possible time.

5.5 Suggestions for Further Research

Research on loan performance continues to grow in the Kenyan environment. Few scholars have published in the area of unconventional lender such as HELB. In future, studies are expected to focus on variables that are related to human behavior rather than market factors. For example, failure to pay loan does not only reflect on an individual's financial power. Some people have the ability to pay but fail to remit such payments. Research must have the capacity to study this form of behavior. This is an important gap that captures the element of behavioral economics and financial intermediation.

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APPENDICES

Appendix I: Letter of Introduction.

Kwang'a Maureen Achieng'.

Kenyatta University

P.O. Box 29768-00202,

NAIROBI.

Dear Respondent,

RE: Request to fill in the Secondary Data Collection Sheet.

I am a graduate student at Kenyatta University, carrying out research on the Loan Characteristics' and Loan Performance at Higher Education Loans Board. This is in part accomplishment of the prerequisite of the Master of Business Administration degree (Finance Option) program at the Kenya University

You have been selected among many to contribute in this study. It is estimated that it will take less than thirty (30) minutes of your time to complete the Secondary Data Collection Sheet. Please respond as truthfully and impartially as possible. Your involvement is very vital for the completion of this study and it will be greatly appreciated. I promise that the information that provided will be treated with the greatest confidentiality and will be used only for academic purposes.

This is an academic research and confidentiality is firmly emphasized, your name will not appear anywhere in the report. Please spare some time to complete the document review guide attached.

Thank You

Yours Faithfully,

Kwang'a Maureen Achieng'.

Appendix II: Document Review Guide

Table 1

| YEAR, | | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------------------|---|------|------|------|------|------|------|
| 1. Loan size. (Ksh per annum) | Amount of Tertiary Loan Disbursed. | | | | | | |
| | Amount of Undergraduate Loan Disbursed. | | | | | | |
| | Amount of Post Graduate Loan Disbursed | | | | | | |
| 2. Interest rate charged. | Tertiary Loans. | | | | | | |
| | Undergraduate Loans. | | | | | | |
| | Post Graduate Loans | | | | | | |

Table 2

| | | 2014 | 2015 | 2016 | 2017 | 2018 | |
|-----------------|-------------------------------------|------------|----------------|----------------|----------------|----------------|----------------|
| 3. Loan Tenure. | a)No.of matured Tertiary Loans | | | | | | |
| | a)No.of matured Undergraduate Loans | | | | | | |
| | b)No.of maturedPost Graduate Loans | | | | | | |
| | | Cohort2009 | Cohort 2010 | Cohort 2011 | Cohort 2012 | Cohort 2013 | Cohort 2014 |

| | | | | | | | |
|-------------------------------|--|--|--|--|--|--|--|
| 4.Loan Performance (%) | a)Tertiary Loan Repayment Rate | | | | | | |
| | a)Undergraduate Loan Repayment Rate | | | | | | |
| | a)Postgraduate Loan Repayment Rate | | | | | | |
| | a) Undergraduate Unemployment Rate. | | | | | | |
| | a)Post Graduate Unemployment Rate | | | | | | |

Table3.

| | | | | | | | |
|----------------------|------|------|------|------|------|------|------|
| Unemployment rate | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| | | | | | | | |

Table 4.

Appendix III: Approval Letter



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 14th October, 2019

TO: Kwang'a Maureen Achieng'
C/o Accounting and Finance Dept.

REF: D53/CTY/PT/38788/2017


SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 2nd October, 2019 approved your Research Project Proposal for the M.B.A Degree Entitled, "**Loan Characteristics and Loan Performance at Higher Education Loans Board in Kenya**".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.


ANNBELL MWANIKI
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Accounting and Finance.

Supervisors:

1. Dr. Ambrose Jagongo
C/o Department of Accounting and Finance
Kenyatta University

AM/Inn

Appendix IV: Authorisation Letter



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D53/CTY/PT/38788/2017

DATE: 14th October, 2019

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

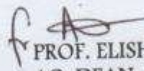
RE: RESEARCH AUTHORIZATION FOR KWANG'A MAUREEN ACHIENG' – REG. NO.
D53/CTY/PT/38788/2017.

I write to introduce Kwang'a Maureen Achieng' who is a Postgraduate Student of this University. The student is registered for M.B.A degree programme in the Department of Accounting and Finance.

Kwang'a intends to conduct research for a M.B.A Project Proposal entitled, "Loan Characteristics and Loan Performance at Higher Education Loans Board in Kenya".






Any assistance given will be highly appreciated.

Yours faithfully,


PROF. ELISHIBA KIMANI
AG. DEAN, GRADUATE SCHOOL

AM/lnn

Appendix V: NACOSTI Permit

| | |
|---|--|
|  REPUBLIC OF KENYA |  NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION |
| RefNo: 937063 | Date of Issue: 17/October/2019 |
| RESEARCH LICENSE | |
|  | |
| <p>This is to Certify that Miss.. MAUREEN KWANGA of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: LOAN CHARACTERISTICS AND LOAN PERFORMANCE AT HIGHER EDUCATION LOANS BOARD IN KENYA for the period ending: 17/October/2020.</p> | |
| License No: NACOSTI/P/19/2326 | |
| 937063 |  |
| Applicant Identification Number | Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION |
| | Verification QR Code |
| |  |
| <p>NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.</p> | |

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is Guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014

CONDITIONS

1. The License is valid for the proposed research, location and specified period
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