DETERMINANTS OF STUDENT LOANS DEFAULT RATE IN KENYA
The Case of Higher Education Loans Board

BY
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OCTOBER, 2012
DECLARATION

This Research Project is my original work and has not been presented in any other University.

Signed........................... Date 12/11/2012

Kerin Lidoroh

This Research project has been submitted for presentation with my approval as University Supervisor.

Signed........................... Date

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DEDICATION

This work is dedicated to my dear children Francis and Natalie, for enduring my absence while undertaking my Master Degree programme. Not forgetting my Parents and friends for the support they have given me ever since I was child.
I would like to thank each and every one, who directly or indirectly assisted in my participation in the MBA programme at School Of Business, University of Nairobi and in compiling this report. While it is not possible to thank everyone by name, I would like to extend special thanks to Dr. J. Aduda (my report supervisor) and all the lecturers for the valuable guidance and information provided regarding pertinent issues related to the program and this study.

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Special thanks must also go to my family members, who have been my source of encouragement during the course period. Not forgetting my children Francis and Natalie who have been my cheering squad in the background.

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ABSTRACT

Higher education matters because knowledge for its own sake is important, as is the transmission of core values for individual life chances and for national economic performance. The need for greater higher educational capacity, quality, and equity is leading more and more countries to turn to student loan schemes, both as a form of student assistance and also as a crucial source of revenue to supplement the increasingly inadequate revenue available from governments and families.

In Kenya the Higher Education Loans Board has been mandated by HELB Act CAP 213A to finance students pursuing higher education both within and outside Kenya. It however faces the challenge of low recoveries, dwindling finances from the Government, increased demand due to growing student population and rising costs of education. Understanding the determinants of loan default rates in student loan schemes seems to hold the key to overcoming the obstacles to student loan default rate.

This study’s objective was to investigate the factors behind high loan defaults and to what extent they affect student loan default in Kenya. It was a case study of Higher Education Loans Board. A Theoretical and empirical review of literature on past studies made on the same were carried out and finally Policy recommendations to minimize loan default suggested.

This study performed regression analysis on secondary data from HELB database of student loan beneficiaries whose loans were in default or dormant focusing on factors identified as critical determinants of default(independent variables) which were; the total amount of loan advanced, age of student, institution attended and study period. The regression model was expected to yield probability of default given various levels of the independent variables.

The study found out that the likelihood that a loanee will default on the university loan is related to a complex web of factors including the total level of debt, the age of student, period of study and the institution of study among others. It would therefore be difficult for the lending institution to manage default on the basis of a single factor. Developing a default management program may be the first step to reducing default rate with the main focus being to prevent the occurrence of default long before the loan beneficiary graduates.
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**ABBREVIATIONS AND ACRONYMS**

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Higher education financing in Kenya, has been characterized by shifting positions determined by local microeconomic changes and policy shifts of the funding agencies particularly the World Bank. Since independence, higher education financing in Kenya has passed through various funding regimes ranging from full support to cost sharing and even private participation (Odebero, Bosire, Sang, Ngala and Ngware, 2007). Odebero et al. (2007) add that public higher education in Kenya was historically free with the public purse covering both tuition and living expenses regardless of the socio-economic ability of the students.

The funding of university education in Kenya has been a matter of major concern to the government since independence because the graduates are expected to ‘respond to the demands of national development and emerging socio-economic needs with a view to finding solutions to problems facing society’ (Republic of Kenya, 1988).

The government’s full responsibility in financing university education ended in 1974 following the enactment of a new policy of cost sharing which was implemented in 1974/75 academic year. Financing of university education was to be shared between the students and the government (Eshiwani, 1993). Each student was automatically entitled to a loan to meet their accommodation and catering services when they qualified to join university. The government paid tuition fees and released loans for catering and
accommodation for each student directly to each University's centralized body the University Students' Accommodation Board (USAB) to meet the said costs of the services. Loan for book allowance or practical attachments were, however, paid directly to each student, popularly referred to as 'boom' (Ministry of Education, 1988).

More comprehensive reforms were realized in 1995, when the government set up the Higher Education Loans Board (HELB) through an Act of Parliament. The board was charged with five responsibilities: facilitating the disbursement of loans, scholarships and bursaries to needy Kenyan students; recovering all outstanding loans given to former university students since 1952 through the Higher Education Loans Fund (HELP); establish a revolving fund from which funds could be drawn and lent to needy Kenyans pursuing higher education (Owino, 2003). The government anticipated that this revolving fund would ease national education expenditures, which had been close to 40% of the national budget; invest surplus funds in any investments authorized by law; and seek additional funding from other organizations (the private sector, philanthropic organizations, and foundations among others).

The Higher Education Loans Board makes it possible for thousands of students to obtain degrees each year who would otherwise be unable to afford to attend university. Loans granted provide a means of obtaining skills and knowledge that will enable students to earn higher salaries, which in turn will allow them to repay their loans.

Higher education matters because knowledge for its own sake is important, as is the transmission of core values. In contrast with earlier years, higher education now matters also for national economic performance and for individual life chances Barr, (2010).
Technological advance has driven up the demand for skills thus making human capital even more important as a determinant of economic competitiveness than in the past, a core argument underpinning increased spending on education by countries.

1.1.1 History of Higher Education in Kenya

The development of higher education in Kenya can be traced back to the history of postsecondary education in East Africa, which dates back to 1922 when the then Makerere College was established by the British as a small technical college, and the only provider of university education in the region.

The Royal Technical College of East Africa (now the University of Nairobi) was established much later in Kenya in 1956 to provide basic training on technical and commercial education (Wandiga, 1996). Three more public universities were established in the 1980's, each by an Act of Parliament. Moi University was established as a second university in 1984 following the Report of the Presidential Party on the Second University (1983). The former Kenyatta University College, a constituent of the University of Nairobi became the third university in 1985, while the former Egerton College, which was also a constituent college of the University of Nairobi, became the fourth university in 1987.

The Jomo Kenyatta College of Agriculture and Technology was granted university status in 1994. Maseno University, a constituent college of Moi University became a full-fledged university in 1996. On the other hand, by 1988 there were 14 private university institutions that offered degrees of foreign universities. These institutions’ operations are
overseen by the Commission for Higher Education, which is an agency under the Ministry of Education.

Following the increasing demand of education, the institutions for higher education have now increased tremendously as the president elevated polytechnics to university status. The latest to acquire a university status was Masinde Muliro University.

1.1.2 Determinants of Loan Default

It is now well known that African financial deepening is plagued by a high rate of loan defaults, which deters banks from lending and encourages them to hold liquid domestic or foreign assets instead (Andrianova et al. 2011, Demetriades and Fielding, 2010). A better understanding of the underlying causes of loan defaults, therefore, holds the key to addressing financial under-development in Africa.

Andrianova et al. 2011 observes that lack of collateral, weak contract enforcement and severe information imperfections are the major causes of loan default in the credit markets. The incidence of loan defaults inversely depends on the effectiveness of contract enforcement and the availability of investment opportunities. Weak contract enforcement can combine with lack of economic opportunities and rising adverse selection to deter banks from lending altogether. At the opposite end of the spectrum, when contract enforcement is reasonably good albeit imperfect banks will choose to lend, even if their screening technologies are unable to detect all dishonest borrowers, who will always default on their loans. The default probability decreases in the proportion of honest borrowers, the number of competent banks and the quality of the screening technology.
The reduction of the default rate will be greater, the larger the increase in honest borrowers gaining access to the new investment opportunity.

Studies by Demetriades and Fielding, 2010 show that economic growth is inversely related to the rate of loan defaults, as does the rule of law and control of corruption. Government banks in corrupt environments experience higher loan defaults than similar age private banks. On the other hand, when control of corruption is above the world average, government ownership reduces the default rate.

Improved screening of borrowers, which calls for the development of credit bureaus and better information sharing, is critical to reduce adverse selection. Better governance, especially better contract enforcement and control of corruption, is equally important in terms of deterring moral hazard by opportunistic borrowers.

Finally, although it does appear that government banks have better information capital and can, in principle, reduce loan defaults, government ownership appears to make matters worse in countries in which control of corruption is below the world norm.

1.1.3 The Higher Education Loans Board

The need for greater higher educational capacity, quality and equity is leading more and more countries to turn to student loan schemes, both as a form of student assistance and also as a crucial source of revenue to supplement the increasingly inadequate revenue available from governments and families (Johnstone, 2010). The basic characteristic of all student loan schemes is that students are offered the chance to borrow money to help them finance tuition costs or living expenses while pursuing their studies. After
completing their studies, graduates must repay the amount borrowed, with or without interest.

The Higher Education Loans Board (HELB) was established in 1995 to manage the student loan scheme in addition to formulating sound policies that would assist the government in financing higher education (Government of Kenya, 1995a). The Board was to initially get funding from the government, and then it would eventually become self-sustaining because of the accumulated repayments from recoveries. Currently, the Board receives approximately 90,000 applications annually from students in both public and private chartered universities. Over 75% of the applicants are usually successful and get varying amounts of loans and bursaries. Funds received from the government stand at 50% of the total loans that the Board gives out to students annually, but tops up this loan portfolio from monthly recoveries to the tune of 50% of the total loans given out.

1.2 Statement of the Problem

Higher Education Loans board has made tremendous progress towards limiting over-reliance on government funding through increased recoveries (Otieno, 2004). Over 60% of funds disbursed to students are generated from recoveries, which, as of 2012, averaged Ksh.220 million per month up from 50million per month in 2002. Despite this achievement, the board is far from achieving full cost recovery, a daunting task for many student loan programs (Owino, 2003; Otieno, 2004). Student loan defaults have existed since the inception of the student loan program in the 1950s. Despite this, only a small number of studies in the past 10 years have used multivariate techniques to examine characteristics of student defaults.
The total outstanding matured loan portfolio as at 30th June 2011 was ksh.20 billion out of which ksh.2.2 Billion (11%) was recovered in the year leaving a balance of ksh.17.8 Billion outstanding. Out of these outstanding loans 8.9 billion (50%) are non-performing loans (HELB data base and Financial Statements 2011). The recovery rate is low when compared to the outstanding matured loans. Funds received from the government remain constant against the increasing number of applicants (HELB Financial statements). The Board is faced with a dilemma of high loan defaulting, dwindling government financing and increasing demand for higher education financing. A number of studies have examined loans repayment and loans recovery in various countries’ student loans schemes. These studies take two forms: individual country studies and comparative studies.

Wandiga (1997) and Otieno (2004), examined the Kenyan loans scheme, and in Chung and Hung (2003) reported on student loans in Hong Kong. These individual studies used somewhat different methodologies; it is difficult to draw any comparative conclusions from an examination of the differing results, across countries. Wandiga (1997) and Otieno (2004) also lacked empirical evidence of inefficiencies in the loan scheme and focused on theoretical issues.

A few comparative studies are available, each relating to a number of country loans schemes. Each of the comparative studies employed a common methodology to examine the country loans schemes under scrutiny. The classic study by Johnstone (1986), which introduced the hidden grant concept, measured the size of the hidden grant in loans schemes in the Federal Republic of Germany, the United States and Sweden. Carlson (1992) compared loans schemes within Latin America and the Caribbean, while
Ziderman and Albrecht (2004) and Ziderman (2008) reported the results from a comparative study of nineteen loans schemes in S.E. Asia and forty-four loan schemes across the world. However, all of these comparative studies have a limited coverage. Johnstone's study relates to industrialized countries while the Carlson and Ziderman studies are regional in focus. The comparative studies by Ziderman and Albrecht (2004) and Ziderman (2008) are more general and far-ranging than the other studies noted above. Computing repayment and recovery ratios for student loans schemes in 19 and 44 countries respectively, the studies covered a larger number of countries, included both developing and industrialized and was not restricted to a regional coverage.

From the above discussions, there is limited information if any on the determinants of student loan default rate at in Kenya. This study seeks to fill this research gap by investigating the determinants of student loan default rate at HELB and establishing the extent these factors affect the student loan default rate at HELB.

1.3 Objective of the Study

The objective of this study will be to investigate the determinants of student loan default rate at Higher Education Loans Board in Kenya. The research questions are:

1. What are the determinants of student loan default rate at HELB?

2. To what extent do these factors affect the student loan default rate at HELB?

1.4 Significance of the Study

The findings of this study will be important to different stakeholders.
First, the study will be important to the managers at Higher Education Loans Board especially in appraising loan applicants and in the formulation of policies and guidelines governing the awarding of loans. The policies so developed will be well informed on ways in which to reduce default rates. The findings will also inform the management on the best strategies to use in order to increase the recovery rate of the already issued loans.

The findings of this study will also be important to the loan defaulters as they will be in a position to understand the effects of loan defaulting both on their credit standings and for the current loan applicants. This will help inform them so as to make arrangements on how to repay their loan outstanding.

The findings of this study will also be important to future scholars and researchers as it will provide reference for the future studies besides informing of the areas requiring further studies where they can study on.
2.1 Introduction

This chapter conducts a review of the literature on higher education loans and default rates. From this review broad categories will be determined which will help easily identify the critical determinants of loan default rates among Higher education loans applicants. Specifically, the chapter addresses the theoretical framework guiding the study, empirical studies reviewed, determinants of loan default rates and then chapter summary.

2.2 Review of Theory

2.2.1 Information Asymmetry Theory

In economics and contract theory, information asymmetry deals with the study of decisions in transactions where one party has more or better information than the other. This creates an imbalance of power in transactions which can sometimes cause the transactions to go awry, a kind of market failure in the worst case (Yun, 2009). Finance theory postulates that information asymmetry can constrain all types of external financing by either limiting availability or increasing costs. Selecting whom to give your money is a very important part of controlling risk. When you give your money to someone, you want to be sure that you are going to get it back with interest.
Two types of risk are present when there is information asymmetry; namely adverse selection and moral hazard risk. Adverse selection is where by charging an average price because of information asymmetry causes those who are better risks or have better products to shun your offer while those with higher risks will seek your offer. Moral hazard is the risk that the receiver of funds will not use the money as was intended or they may take unnecessary risks or not be vigilant in reducing risk.

Consequently, information asymmetry affects the acquisition and use of bank lines since short-term bank credit is a primary external source of firm liquidity. Other studies argue that the use of short-term bank credit mitigates capital market frictions through increased monitoring and reduced information asymmetry (Faulkender and Petersen, 2006). If line acquisition and use mitigate information asymmetry, then firms with line access should have reduced information asymmetry relative to firms without line access and more transparent firms would be expected to more actively use lines of credit for liquidity management. Existing empirical research suggests that information asymmetry can have an important impact on bank lending and that limitations exist for certain firms in using bank lines as liquidity substitutes (Hardin and Hill, 2010).

On a direct basis, information asymmetry impacts a lender’s willingness to lend. Additional risk comes with uncertainty in firm level performance and greater variability in investment opportunities. A large portion of related monitoring costs is likely to be transferred to borrowers in the form of higher interest rates and data collection costs, which may lead some borrowers to reduce their use of bank lines of credit. Moreover, if monitoring is imperfect and the lenders cannot eliminate information asymmetry, bank credit may be rationed for opaque firms.
On an indirect basis, information asymmetry may also influence line of credit availability and use since some sources of repayment are based on access to public capital markets (Hardin and Hill, 2010). Information asymmetry problems increase the monitoring costs and risks for lenders. Less transparent firms are less likely to obtain and then use lines of credit as an alternative source of liquidity.

Financial institutions minimize the risk of adverse selection through use of financial intermediaries, credit scoring, requiring collateral and also requiring a certain amount of net worth. Moral hazard risk if reduced through use of equity finance which is financing through issuance of stock to managers (stock options) and debt finance through issuance of bonds which usually has restrictive covenants.

2.2.2 Portfolio Theory

Modern Portfolio Theory ("MPT") is also called "portfolio theory" or "portfolio management theory." MPT is a sophisticated investment approach first developed by Professor Harry Markowitz of the University of Chicago, in 1952. Thirty-eight years later, in 1990, he shared a Nobel Prize with Merton Miller and William Sharpe for what has become the frame upon which institutions and savvy investors construct their investment portfolios.

Modern Portfolio Theory allows investors to estimate both the expected risks and returns, as measured statistically, for their investment portfolios. In his article "Portfolio Selection" (in the Journal of Finance, in March 1952), Markowitz described how to combine assets into efficiently diversified portfolios. He demonstrated that investors failed to account correctly for the high correlation among security returns. It was his
position that a portfolio's risk could be reduced and the expected rate of return increased, when assets with dissimilar price movements were combined. Holding securities that tend to move in concert with each other does not lower your risk. Diversification, he concluded "reduces risk only when assets are combined whose prices move inversely, or at different times, in relation to each other."

Dr. Markowitz was among the first to quantify risk and demonstrate quantitatively why and how portfolio diversification can work to reduce risk, and increase returns for investors. Diversification reduces volatility more efficiently than most people understand: The volatility of a diversified portfolio is less than the average of the volatilities of its component parts.

While the technical underpinnings of MPT are complex, and drawn from financial economics, probability and statistical theory, its conclusion is simple and easy to understand: a diversified portfolio, of uncorrelated asset classes, can provide the highest returns with the least amount of volatility.

Many investors are under the delusion that their portfolios are diversified if they are in individual stocks, mutual funds, bonds, and international stocks. While these are all different investments, they are all still in the same asset class and generally move in concert with each other. When the bubble bursts in the stock market, this becomes a tragedy. Proper diversification according to MPT is in different asset classes that move independently from one another. An example of uncorrelated and independent investments versus stocks is professionally managed futures.
When constructing a portfolio, you could opt for an extremely low-risk, but unsatisfactory long-term portfolio by holding only short-term government bonds. At the other extreme, you could create a long-term portfolio comprised of only high-growth stocks.

HELB embraces MPT through issue of undergraduate loans which are very risky as the credit worthiness of loanee is not evaluated and post graduate loans which are highly credit scored before being awarded. It also diversifies risk by involving private institutions in financing higher education through both financial aid and loans.

2.2.3 Credit Risk Models

Credit risk is defined by the Basel Committee (2000) as “the potential that a borrower or counterparty will fail to meet its obligations in accordance with agreed terms.” The effective management of credit risk is a critical element of a comprehensive approach to risk management and essential to the long-term success of any banking organization (Basel Committee, 2000).

Credit risk is classified as default risk and migration risk. Default risk is the risk that counter parties fail to meet their debt obligation. Migration risk is the risk that obligors’ credit rating goes down. Default risk can be measured at individual loan level, which is called stand-alone credit risk, and at portfolio level, which is called portfolio credit risk.

Credit risk associated with individual loans as well as their asset portfolio is measured using credit risk models. They enable forecasting possible credit losses over the coming year, to differentiate loan price over lenders having different risk, to determine the loan
loss reserves and risk-based capital requirements, to evaluate credit concentration and set concentrate limits, and to measure risk-adjusted profitability (Lopez and Saidenberg).

Stand-alone credit risk model attempts to evaluate credibility at the transaction or account level such as of a firm or individual borrower. It falls in to three categories namely (1) expert systems, (2) internal and external credit rating, and (3) credit scoring models.

Portfolio credit risk model measures credit risk at the portfolio level. The portfolio credit risk model is a methodology that estimates the probability of default and loan loss for a loan portfolio over a particular time horizon. It usually combines the probabilities of default for individual loans and estimates the probability of default at portfolio level by aggregation (Lopez, 2001). Portfolio credit risk modeling is a process to find specific solutions to the two main problems namely the modeling of the probability of default for individual loans and the construction of the joint distribution (or probability) of default by taking into account the correlations between defaults in the portfolio (Dietsch and Petey, 2002).

There are four leading portfolio credit risk or "vendor" models: (1) Portfolio Manager by Moody's KMV, (2) Credit Metrics by the Credit Metrics Group, (3) Credit Risk Plus by Credit Suisse Financial Products and (4) Credit Portfolio View by McKinsey. Current portfolio credit risk models can be traced to three alternative forms: (1) option-based structural models, (2) reduced form (actuarial) models, and (3) multi-factor econometric models.

HELB uses a means testing tool to determine extent of neediness of student to establish amount to give to undergraduates but does not measure their credit risk. For Postgraduate
loans the ability to start repaying immediately is a qualifying factor but the credit risk after granting the loan is not assessed.

2.3 Review of Empirical Studies

A review of international experience with student loan schemes in both industrialized and developing countries by Salmi 2003, found out that, because of heavily subsidized interest rates, high default rates, and high administrative costs, the repayment proportion of loans has been insignificant. He identified the following features as critical to boost loan recovery: a good information and marketing strategy to promote the student loan program and ensure widespread awareness among eligible students and institutions; transparent eligibility criteria to ensure that any subsidy element be targeted to the most deserving students (academically and socially); a close supervision of the academic performance of the student loan beneficiaries; a carefully designed interest rate and subsidy policy to protect the long term financial viability of the scheme; efficient collection mechanisms, an appropriate legal framework, to minimize default; efficient institutional management of all key processes (evaluation and selection of beneficiaries, academic monitoring, loan collection, financial management), based on an adequate computerized management information system; and a stable management team.

Volkwein and Szelest, 1995 studied student loan defaulters where they identified two categories of characteristics contributing to student loan defaults as institutional and individual. Though institutional characteristics are often viewed as less important than individual characteristics when assessing why student loan default occurs, they indicated
that some institutional characteristics contribute to student loan default rates. Of these, type of institution receives the most attention.

Otieno (2004) observes that the failure of the lender (most often the government) to have efficient collection mechanisms and to make clear that the obligation was indeed a loan and the failure to repay having potentially serious legal and other consequences, such as a loss of credit also determines loan default.

Johnstone et al. 2010 observes the weaknesses in student loan schemes, especially prevalent in low- and middle-income countries, can be attributed to three interrelated problems. The first of these is inadequate design, stemming principally from a political imposition of very low interest rates incapable of yielding repayment streams able to amortize the debts even in the absence of defaults. The second weakness is inadequate execution, or collection: partly as a result of excessive costs of collection, but especially including rates of default that are higher than they need to be, even in low income countries where high levels of defaults should be expected given the high rates of graduate unemployment, mobility and emigration on top of less developed credit cultures and less developed legal and regulatory frameworks in support of debt collection. The third weakness is the inability to tap private capital markets, forcing all new lending to come not from savers, via banks and other institutions of the private capital market, but from a combination of: (a) repayments on past lending, which will be low due to the high levels of default mentioned above and (b) new governmental appropriations, which compete with all of the other politically and socially pressing claims on increasingly scarce public revenues.
Orum (2006) did a study on the institutional strategies to improve government student loan repayment. The findings indicated that a relationship between many factors and student loan default/repayment behavior, ones that related to student characteristics (gender, age, ethnicity, family background and income, academic preparedness and borrower attitude); post-secondary experience variables (characteristics of institution, student major, attendance duration, employment during school, and loan program counseling); post-secondary success variables (completion, continuous enrolment and grade point average); and post-college variables (debt level, employment, income, personal and family status, loan repayment behavior and knowledge, as well as loan servicing factors). There seemed to be a lack of research in certain areas, particularly the role that the government loan programs themselves, including their policies and processes, may play in impacting loan repayment rates.

Further Studies have also found that student characteristics are related to default. Wilms, Moore, and Bolus conclude that student characteristics have a greater influence on default rates than do institutional characteristics. A more recent study conducted by Volkwein and Szelest strongly supports these findings. Perhaps one of the most studied and widely accepted student characteristics which predict an individual’s default is whether or not the student graduates. Greene found a strong negative relationship between students who graduate and default. Thus, students who default tend to be those students who withdraw prior to graduation. In a later study, Knapp and Seaks examine two-year and four-year private schools and also find that graduation reduces default.

Another student characteristic often associated with loan default is the race or ethnic origin of the borrower. Depending upon the study, the methodology, and sample size of
the study, race/ethnicity may or may not be associated with student loan defaults. For example, Wilms, Moore and Bolus examined student characteristics at community colleges and proprietary schools using a discriminate analysis model. In this study, the second most important factor out of six factors in predicting student loan default was race, specifically African American. In contrast, two years later Greene's study, which uses a Tobit regression model, found race, specifically whether a borrower was African-American, to be statistically insignificant in identifying student characteristics of defaulters.

Additionally, Volkwein et al. found that racial/ethnic minority groups default no more than non-minority groups when grouped into categories based on degree earned, marital status, and presence of dependent children.

Earned credit hours, or grade level, is another student characteristic influencing the predictability of default. Gray's logistic regression model indicated that the number of credit hours a student earns while in college is one of six factors predicting repayment behavior. Essentially, the more hours a student earns (a proxy for grade level), the less likely that a student loan default will occur.

Another student characteristic identified with student loan default rates is the amount of financial support, typically from parents, that a student receives. Some studies, like Volkwein and Szelest and Knapp and Seaks, have found a negative relationship between financial support from parents and/or family and student loan default; the less financial support, the greater the likelihood of default. Additionally, Wilms, Moore.
and Bolus have found the greater the average annual family income "the more likely the student borrower will repay.

Ziderman (2004) reviewed student loan schemes (both "mortgage type" and ICLs) in five developing countries in Asia (China, Hong Kong (China), Korea, Philippines, and Thailand) and identifies a number of administrative weaknesses, including lack of adequate financial appraisal, forward planning, monitoring and evaluation, as well as inadequate targeting and failures of collection. He cautions, Policy reform in the field of student finance, as in other areas, should be guided by international experience of good practice (on what has worked well) and of mistakes to be avoided). However, ‘instant’ institutional borrowing, based on a particular country’s practice should be avoided.

Hong and Chae (2011) did a study on student loan policies in Korea where they looked at the evolution, opportunities and challenges. They reviewed the role of reforms in student loans policies in contributing to the expansion of higher education in Korea from a historical perspective. Since the end of the Korean War in 1950, the development of Korea’s loan system has occurred at a dramatic pace concurrent with the rapid expansion of Korean higher education. The major features of the reforms are as follows: (1) 1950s to early 1980s: Interest free student loans; (2) 1985–2005: Subsidized interest rates loans scheme; (3) 2005–present: Student loans-backed securities scheme (SLBS); and (4) 2010: Income contingent loans as a supplement to SLBS. The driving forces behind these reforms were social pressures to increase affordability of higher education for all, and the need to secure a sustainable funding mechanism corresponding to the increase in student loans. Although the loans policy was instrumental in expanding higher education in
Korea, its effect was mediated by various factors such as the relationship between the funding structure of higher education and private higher education institutions (HEIs), the regulation on university establishment and deregulation of student quota, education fever, and economic conditions. The Korean case demonstrates the complicated dynamics between reforms in the student loans system and expansion of higher education in Korea.

Johnstone (2001b) and Johnstone and Aemero (2001) cited two major, and partly conflicting, goals for student loan programs: supplementing governmental revenues (which depended on the degree of effective cost recovery and on tapping private capital), and expanding participation in higher education. The Kenyan program had not been very successful in either regard, save for a scholarship arrangement with the Visa Oshwal community in Kenya that was benefiting 101 students for the duration of their studies in the public universities (Mwiria & Ng’ethe, 2002). Assuming that the board would give full loans of Ksh 42,000 for each student, the assistance amounted to savings of Ksh 4,242,000 (US$ 184,435) per year and Ksh 16,968,000 (US$737,739) for the four-year study duration. Other than this one-time assistance, the program was dependent on the traditional government subventions and recoveries, though it is mandated to secure other forms and sources of funding.

Otieno (2004) studied student loans in Kenya: past experiences, current hurdles, and opportunities for the future. In his recommendations drawing lessons from the seven-year existence of HELB as well as from its predecessor organization, several measures and policies called attention to themselves as needing consideration before the program could fully meet the objectives for which it was set up. The challenges included facilitating the expansion of university education, addressing issues of equity and
efficiency in funding universities and other postsecondary/tertiary institutions of education, enhancing recovery, and tapping additional sources of finance other than the government. He sighted that HELB would minimize default through partnering with the Kenya Revenue Authority to trace loanees and tapping through the private sector for capital.

Mwinzi (2002) did a study on the impact of cost-sharing policy on the living conditions of students in Kenyan public universities: the case of Nairobi and Moi universities. She found out that financial assistance to most of the students was inadequate. The overall impact of involvement in IGAs is illustrated by over seventy percent respondents (71.1%) who indicated that they missed or were inattentive during several lectures, and those who did not complete projects or assignments on time. This study also recommended ways to improve the existing student loans and bursaries to provide adequate funding for student to meet living expenses. In conclusion, these results had useful implications on financing university education in Kenya, and other African countries where the cost sharing was being implemented, policy on student trading activities on campus and the university curriculum in general.

2.4 Determinants of Student Loan Default

The following characteristics repeatedly have shown to be some of the most important factors that forecast, associate, or correlate with student loan defaults according to the literature reviewed.

2.4.1 Institutional Characteristics—Descriptive analysis suggests that greater institutional investment and instructional support is associated with decreased likelihood
of default (Volkwein & Szelest, 1995). Generally, the wealthier the institution attended and the greater the student’s access to social and economic capital the less likely the student is to default.

2.4.2 Student Characteristics and Background

2.4.2.1 Race/ethnicity- Race/ethnicity emerges as one of the strongest predictors of default (Harrast, 2004). The relationship between race/ethnicity and likelihood of default holds regardless of the institutional type (Dynarski, 1994).

2.4.2.2 Age- As age increases so does the likelihood of loan default, even after controlling for other important factors such as income (Christman, 2000; Flint, 1997; Harrast, 2004; Herr & Burt, 2005; Podgursky et al., 2002; Steiner & Teszler, 2005; Woo, 2002a, 2002b). Herr and Burt (2005) suggest that older students may be more likely to default because they owe more than their younger counterparts and because they may have relatively less in available resources to repay the loans. Older students likely have greater financial obligations—such as families to support—that may compete with or prohibit loan repayment, while younger students have relatively fewer financial commitments. Harrast (2004) found that on average each year of age added more debt to the student’s cumulative debt load. Other research suggests the likelihood of default increases along with the total amount owed (Choy & Li, 2006).

2.4.2.3 Gender- Women take longer to repay loans (Choy & Li, 2006), and that men are more likely than women to default on loans (Flint, 1997; Podgursky et al., 2002; Woo, 2002a, 2002b).
2.4.3 Socioeconomic Contexts - Student loan default occurs across the range of students' socioeconomic contexts. The family structure, the parents' education, the parents' marital status, and the family's eligibility for financial assistance such as Aid to Families with Dependent Children are all proxies for the social and economic capital students can "cash in" to attend college and then later to repay loans.

2.4.3.1 Family structure- Family structure affects in a number of ways the likelihood of defaulting on loans. First, the greater the number of dependents claimed by a student, the greater the likelihood of loan default (Dynarski, 1994; Volkwein & Szclest, 1995; Woo, 2002). Being a single parent is also associated with a greater risk of loan default (Volkwein et al., 1998). Being separated, divorced, or widowed was found to increase the probability of defaulting (Volkwein & Szclest, 1995). Students, who can count on support from their families, including parents, are less likely to default than those who have no family support (Volkwein et al., 1998; Woo, 2002a, 2002b).

2.4.3.2 Parental Education- Students whose parents had higher levels of formal education are less likely to default than first-generation college students (Choy & Li, 2006; Volkwein et al., 1998; Volkwein & Szclest, 1995).

2.4.3.3 Income- Students from low-income families tend to incur more debt during school than their wealthier peers (Herr & Burt, 2005; Steiner & Teszler, 2005; Volkwein & Szclest, 1995). Generally, the higher the family income the lower the likelihood the student will default (Knapp & Seaks, 1992; Wilms et al., 1987; Woo, 2002a, 2002b). Unemployment increases the likelihood of default, making success in the job market
critical to repaying student loans (California Postsecondary, 2006; Dynarski, 1994; Monteverde, 2000).

2.4.3.4 Debt burden—Research suggests that as debt burden increases so does the likelihood of default. The more a student borrows the greater the chance of default (Choy & Li, 2006; Dynarski, 1994; Lochner & Monge-Naranjo, 2004).

2.4.3.5 Unemployment - In ability to pay due to unemployment or other unanticipated financial stresses (frequently a function of the state of the entire economy); is the major cause of default. This conclusion is based primarily on a number of empirical studies that have demonstrated strong relationship between unemployment and low earnings on one hand and student loan default on the other. Inability to make payments due to illness, disability, or death could also contribute.

2.4.3.6 Graduate Mobility - high incidence of graduate mobility, including frequent periods of employment and travel outside the borrower’s country can also cause default

2.4.4 College Experiences – According to Podgursky et al. (2002), what a student goes through while at the university has a direct impact on whether he will repay his loan or not. Students who perform well academically and complete their courses are less likely to default on their loans as compared to those who do not graduate (Steiner & Teszler, 2003).

2.4.4.1 Academic enrollment and intensity. Evidence suggests that the odds of defaulting increase the longer it takes a student to get through school, although enrolling continuously may have a stronger positive relationship with not defaulting than taking
longer to graduate. (Podgursky et al., 2002). Herr and Burt (2005) found that students who transferred credits are more likely to default. Low academic performance is all associated with a decreased likelihood of earning a degree, which is also a strong predictor of default.

2.4.4.2 **Educational attainment.** Students who do not graduate are more likely to default than students who graduated (Dynarski, 1994). Steiner and Teszler (2005) estimated that students who graduated had a 2 percent chance of defaulting compared to 14 percent for those who did not graduate.

2.4.4.3 **Program of study.** What students study in school appears to affect likelihood of default in at least two ways? These are in amount of debt incurred and in post-graduation earnings. Some programs of study land a student on high paying jobs while others do not (Harrast, 2004).

2.4.5 **Financial Aid and Education Debt** - According to Steiner & Teszler, (2003) there is positive relationship between debt burden and default, a decrease in grants and scholarships may promote an increase in likelihood of default.

2.4.6 **Attitudes and Awareness Regarding Education Debt by Students** - A study by Christman, (2000) concluded that student attitudes including ignorance about the borrowing process and their perception about the debt burden and its impact on their income were related to default. Steiner & Teszler, (2005) explored the effects of loan counseling on consumer education programs and found out that they appear to be related to lower rates of default. Students are more likely to prioritize the repayment of credit card debt over that of student loan debt (Pinto & Mansfield, 2006). A failure to make
payments contributed to by the failure of the lender (most often the government) to make clear that the obligation was indeed a loan and the failure to repay having potentially serious legal and other consequences, such as a loss of credit.

An unwillingness or outright refusal to make payments due to several factors (some of which might constitute rationalizations for such behavior), including: dissatisfaction with the higher education received; a sense of having been treated unfairly by the university; a misunderstanding that the so-called deferred obligation was indeed a loan that had to be repaid; a political or ideological opposition to the very notion that students should be charged anything for their higher education;

2.5 Summary

This chapter reviewed literature on student loan default rate determinants from different scholars and researchers. The chapter first addressed the theoretical framework on which this study is build where three important theories were discussed: the information asymmetry theory, portfolio theory and credit risk models. The study then considered the determinants of student loan defaults including both institutional and individual characteristics (Volkwein and Szelest, 1995). Most existing studies reviewed have been done in a different setting and countries which makes this study unique to Kenya since it will ensure that the findings add to the existing literature with Kenya specific literature and experiences.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out various stages and phases that were followed in completing the study. In this stage, most decisions were about how research was to be executed, as well as when, where and how the research would be completed.

The following subsections are included; research design, target population, data collection instruments, and data analysis and presentation.

3.2 Research Design

The researcher applied a case study design. Yin, (1994) said that to refer to a work as a case study might mean that its method is qualitative, small-N; and that the research is ethnographic, clinical, participant-observation, or otherwise “in the field” (Yin 1994). According to Yin (2003) a case study design should be considered when: the focus of the study is to answer “how” and “why” questions; you cannot manipulate the behavior of those involved in the study; you want to cover contextual conditions because you believe they are relevant to the phenomenon under study; or the boundaries are not clear between the phenomenon and context. The design was appropriate because it could acquire a lot of information through description hence enabled the researcher to obtain the relevant data that answered the research questions.
3.3 Target population and sample size

Target population for any statistics is the specific population about which information is desired. According to Ngechu (2004), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. The population was 17,864 student (loanee) defaulters from HELB database for loans due for repayment between 2008 and June 30th 2012 for the financial year 2011/2012. Four variables that affect loan default were tested on this data.

3.4 Data collection

The study used secondary data. Secondary data was collected from HELB’s database together with the financial statements and other publications relevant to the study. The loan payment database as at 30th June 2012 was used. Data analyzed for the purpose of the study was for the period, 1st July 2007 to 30th June 2012. This period was selected because its more current and the five year period was expected to yield a more representative result considering that the institution has been in existence for fifteen years.

3.5 Data Analysis and presentation

The data was pre-processed using Statistical Package for Social Sciences (SPSS). The type of statistics that were used include descriptive. According to Blalock (1978) (as cited by Nyandwi, 2003), descriptive statistics aim at giving a concise picture of the data by organizing, summarizing and presenting data. The researcher conducted a regression analysis using the following regression analysis model:
The model was as follows: \( Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + \epsilon \)

Where \( Y \) = Loan Default Rate

\[ \begin{align*}
    a &= \text{constant} \\
    b_1, b_2, b_3 \text{ and } b_4 &= \text{co-efficient associated with } X_1, X_2, X_3 \text{ and } X_4 \text{ respectively.} \\
    X_1 &= \text{Age of the loanee} \\
    X_2 &= \text{Total amount of loan advanced} \\
    X_3 &= \text{University attended} \\
    X_4 &= \text{Course study Period} \\
    \epsilon &= \text{the error term}
\end{align*} \]

Data on the above variables was readily available from the database collected from the operating system of HELB as at June 2012.
CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents data collected and also conducts descriptive and statistical analysis including correlation and regression analysis between the default rate and the independent variables namely age, loan amount awarded, type of university and study period. The chapter subsequently proceeds to give a summary of the findings on the results of the statistical analysis.

4.2 Data Presentation

4.2.1 Repayment Status

The study set to collect the data on the repayment status of the beneficiaries of loans from Higher Education Loans Board as at 30th June 2012. The findings were as illustrated in the table 1 below.

From the findings indicated in the table 1 below, there were 41,489 loan beneficiaries who were repaying their loans and were up to date on the repayment. 1,357 beneficiaries were in default on their loans. 7,920 had cleared repaying their loans while 16,336 beneficiaries did not have activities on their loan accounts. 171 of the beneficiaries had dead.
Table 1: Repayment Status

<table>
<thead>
<tr>
<th>Loan Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repaying</td>
<td>41,489</td>
<td>62%</td>
</tr>
<tr>
<td>In Default(ever paid)</td>
<td>1,357</td>
<td>2%</td>
</tr>
<tr>
<td>Cleared (Fully Paid)</td>
<td>7,920</td>
<td>12%</td>
</tr>
<tr>
<td>Dormant (never paid)</td>
<td>16,336</td>
<td>24%</td>
</tr>
<tr>
<td>Beneficiary Dead</td>
<td>171</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67,273</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: (Research Data, 2012)

4.2.2 Loan Maturity Status

The study sought to establish the loan maturity status of the loans advanced by the Board.

The findings were as illustrated in the table 2 below:

Table 2: Loan Maturity Status

<table>
<thead>
<tr>
<th>Year (Date)</th>
<th>Matured</th>
<th>Not Yet Matured</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 30th 2012</td>
<td>18,516,415,476.00</td>
<td>10,494,383,613.00</td>
</tr>
<tr>
<td>June 30th 2011</td>
<td>16,779,703,547.00</td>
<td>8,925,447,626.00</td>
</tr>
</tbody>
</table>
From the data findings, the loan that matured by 2007 amounted to 13.5 billion. The balances outstanding has maintained an upward trend to stand at 14.4 billion in 2008, 15.5 billion in 2009, 16.2 billion in 2010, 16.8 billion in 2011 and 18.5 billion by 2012. The amount yet to mature has also experienced an upward trend from 2007 to 2012. In 2007, the balance was 4.5 billion which grew slightly in 2008 to 4.9 billion. In 2009, the balance yet to mature increased to 6.1 billion while in 2010 it increased to 7.3 billion. The balance continued to increase in 2011; the balance yet to mature was 8.9 billion while in 2012 the balance stood at 10.5 billion.

4.2.3 University Attendance

The study further analyzed the information regarding the distribution of loan beneficiaries according to the universities that the beneficiaries attended. The findings were as shown in the table 3 below:
Table 3: University Attended

<table>
<thead>
<tr>
<th>University</th>
<th>Loan Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nairobi University</td>
<td>19,803</td>
</tr>
<tr>
<td>Kenyatta University</td>
<td>13,329</td>
</tr>
<tr>
<td>Moi University</td>
<td>9,708</td>
</tr>
<tr>
<td>Egerton University</td>
<td>9,164</td>
</tr>
<tr>
<td>JCUAT</td>
<td>3,675</td>
</tr>
<tr>
<td>Maseno University</td>
<td>3,330</td>
</tr>
<tr>
<td>Masinde Muliro University</td>
<td>1,076</td>
</tr>
<tr>
<td>Other</td>
<td>7,188</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67,273</strong></td>
</tr>
</tbody>
</table>

Source: (Research Data, 2012)

From the study findings shown in the table 3 above, majority of the beneficiaries studied at the University of Nairobi at 19,803 followed by those who studied at Kenyatta University at 13,329. In the third position was Moi University with 9,708 beneficiaries while Egerton University came in fourth with 9,164 beneficiaries yet to clear their loans. Jomo Kenyatta University of Agriculture and Technology together with Maseno University had 3,675 and 3,330 beneficiaries respectively. Masinde muliro university had
1, 076 beneficiaries. Other beneficiaries attended various other universities. These included United International University (USIU), Kabianga University, Kenya Methodist University, Kimathi University, Kenya Polytechnic University, among many other universities with beneficiaries less than 1000 making up the total of 7,188 beneficiaries in the books of Higher Education Loans Board as at June, 2012.

4.2.4 Course Study Period

The study sought to establish the study period of the beneficiaries in the books of account as at June, 2012. The findings were as shown in the table 4 below:

Table 4: Course Study Period

<table>
<thead>
<tr>
<th>Course Study Period</th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 4 years</td>
<td>16286</td>
</tr>
<tr>
<td>4 years</td>
<td>57839</td>
</tr>
<tr>
<td>5 years</td>
<td>5222</td>
</tr>
<tr>
<td>six years</td>
<td>3429</td>
</tr>
<tr>
<td>More than 6 years</td>
<td>783</td>
</tr>
<tr>
<td>Total</td>
<td>67273</td>
</tr>
</tbody>
</table>

Source: (Research data, 2012)
From the study findings shown in the table 4 above, the study established that majority of the loan beneficiaries (57,839) undertook a four year course followed by those whose studies were scheduled to last for less than 4 years at 16,286. Those who undertook courses taking a period of five years were 5,222 while those studying for six years were 3,429. 783 beneficiaries had been in college for more than six years.

4.2.5 Age of the Loan Beneficiaries

The study sought to establish the distribution of the beneficiaries according to their ages. The findings were as shown in the table 5 below:

Table 5: Age of the Loan Beneficiary

<table>
<thead>
<tr>
<th>Age of the Beneficiary</th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 25 years</td>
<td>22323</td>
</tr>
<tr>
<td>Between 26-35 years</td>
<td>19074</td>
</tr>
<tr>
<td>Between 36-45 years</td>
<td>15426</td>
</tr>
<tr>
<td>Above 46 years</td>
<td>10279</td>
</tr>
<tr>
<td>Deceased</td>
<td>171</td>
</tr>
<tr>
<td>Total</td>
<td>67273</td>
</tr>
</tbody>
</table>

Source: (Research Data, 2012)
From the research findings, majority of the beneficiaries were aged below 25 years indicating that a majority are among those still in college with only a few having cleared college considering that many students in Kenya clear college education starting from the age of 23 years. In the second position was those aged between 26-35 years at 19,182. These are the students that have cleared undergraduate education and a few undertaking their post graduate studies. Majority in this age group have gotten into employment and the Board is now working on strategies to have them pay their loans. Those aged between 36-45 years made up 10,279 of the loan beneficiaries who had not paid their loans as at 30th June 2012. Those aged above 46 years were 10,279 while those who were deceased made up 171 beneficiaries.

4.2.6 Descriptive Statistics

Table 6: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Default Rate</th>
<th>Total Loan</th>
<th>Study Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>1.1960</td>
<td>93,432.13</td>
<td>3.6716</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.8518</td>
<td>479,90.20</td>
<td>0.5265</td>
</tr>
<tr>
<td>Maximum</td>
<td>6.7517</td>
<td>240,000.00</td>
<td>6</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.0019</td>
<td>20,000.00</td>
<td>1</td>
</tr>
</tbody>
</table>

From the above table, the average default rate of 119.6% implies that the defaulters were in arrears of more than twice their initial loan advance largely due to accumulated accruals of interest and penalties. The 85.18% standard deviation in default rates also
indicates a generally high volatility in default rates amongst defaulters and as such
defaults can be said to affect applicants with low interest accruals as well as those with
high loan accruals; hence the level of debt servicing may not be a good predictor of
default. This trend is further backed by the wide variance in the Maximum and minimum
default rates of 675.17% and 1.9% respectively with the minimum rate indicating that
loan applicants begin defaulting at the beginning of their repayment period even before
they encounter significant interest and penalty accruals.

The average loan amount advanced to the defaulters was KES. 93,432.13 with a
maximum and minimum of KES 240,000 and KES 20,000 respectively. The standard
deviations of the loan amounts and the study period are indicative that for each additional
half year (semester) loan amounts of KES 47,990.20, on average, had been disbursed to
individual defaulters in the course of their study periods between 2008 and 2012.

Table 7: Defaulters Distribution Analysis

<table>
<thead>
<tr>
<th>Age Bracket</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 25 Yrs</td>
<td>1330</td>
<td>7%</td>
</tr>
<tr>
<td>Between 25 Yrs and 30 Yrs</td>
<td>11942</td>
<td>67%</td>
</tr>
<tr>
<td>Over 30 Yrs</td>
<td>4592</td>
<td>26%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Type</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>17682</td>
<td>99%</td>
</tr>
<tr>
<td>Private</td>
<td>182</td>
<td>1%</td>
</tr>
</tbody>
</table>
Study Period

<table>
<thead>
<tr>
<th>Study Period</th>
<th>Count</th>
<th>Default Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Yr</td>
<td>98</td>
<td>1%</td>
</tr>
<tr>
<td>4-Yr</td>
<td>12068</td>
<td>67%</td>
</tr>
<tr>
<td>3-Yr</td>
<td>5432</td>
<td>30%</td>
</tr>
<tr>
<td>2-Yr</td>
<td>196</td>
<td>1%</td>
</tr>
</tbody>
</table>

The majority of the loan defaulters are between the 25yr and 30yr age bracket as this is the age bracket in which they generally graduate and look for jobs hence it is also the most volatile period and thus affords the least financial stability for graduates hence the higher default rates. Default rates are decline for graduates over 30yrs of age as they are more financially stable having gained work experience and improved income flows consequently reducing their chances of default.

For the most part HELB defaulters in the 2008-2012 periods were almost always from public universities; perhaps this is more so as public universities generally have a lower fees structure and as a result most applicants would rather borrow to pay for the more affordable public university education.

Given that Kenya has an 8-4-4 kind of education it is not surprising that the majority of the loan defaulters were enrolled in 4-yr study programs for their tertiary level education.
### 4.2.7 Correlation Analysis

**Table 8: Correlation Matrix**

<table>
<thead>
<tr>
<th></th>
<th>Default Rate</th>
<th>Age</th>
<th>Total Amount</th>
<th>University (Public/Private)</th>
<th>Study Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Rate</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.42091</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Amt Adv</td>
<td>0.00307</td>
<td>-0.29022</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Univ (Public/Private)</td>
<td>0.01551</td>
<td>-0.01559</td>
<td>0.01334</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Study Period</td>
<td>0.03439</td>
<td>0.14647</td>
<td>-0.23127</td>
<td>-0.04847</td>
<td>1</td>
</tr>
</tbody>
</table>

From the above table, the correlation between variables is generally weak as it is below 0.5 for all correlations. The strongest relationship between variables, however, is between the default rate and age. This implies the likelihood of older loan applicants exhibiting higher default rates. There is a positive relationship between the default rate and the age and the default rate and total amount advanced while there is a negative relationship between the default rate and type of university and between the default rate and the study period.
### 4.2.8 Regression Analysis

#### Table 9: Regression Summary

<table>
<thead>
<tr>
<th>Coefficients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-5.01106</td>
</tr>
<tr>
<td></td>
<td>(0.00)*</td>
</tr>
<tr>
<td>Age</td>
<td>0.15998</td>
</tr>
<tr>
<td></td>
<td>(0.00)*</td>
</tr>
<tr>
<td>Total amount advanced</td>
<td>0.19151</td>
</tr>
<tr>
<td></td>
<td>(0.000006)*</td>
</tr>
<tr>
<td>University (public/private)</td>
<td>-0.11447</td>
</tr>
<tr>
<td></td>
<td>(0.591101)</td>
</tr>
<tr>
<td>Study period</td>
<td>-0.12196</td>
</tr>
<tr>
<td></td>
<td>(0.003689)*</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.1997</td>
</tr>
</tbody>
</table>

P-values in parenthesis

*P-value is significant at 5% level (p<0.05)

Given the generally weak correlation among the independent variables it follows that the possibility of multi-collinearity among the variables used in the regression equation estimate was also low and as a result all the independent variables could be applied in the
regression equation at the same time without incurring the danger of not knowing which variable to attribute to the co-movements in the dependent variable. The age of defaulter, amount advanced and period of study were found to have significantly affected the rate of default in the 2008-2012 period. A unit increase in default, on average, leads to a 15.99% rise in the rate of default while a unit increase in the loan amount is estimated to arise in 19.15% increase in the rate of default. On the other hand, a unit rise in the study period reduces the default rate by 12.2%.

The coefficient of determination, $R^2$, indicates that the four independent variables only serve to explain 20% of the changes in student default rates.

### 4.3 Summary and Interpretation of Findings

Analysis indicates that, on average, defaulters had cumulatively incurred loan amounts that were more than twice the initial level of debt borrowed from HELB; further the standard deviation in the default rate coupled with maximum and minimum default rates give indication that debt servicing levels may not be a good predictor of defaults.

The majority of defaulters, in the 2008-2012 period, are to be found within the first five years after finishing college which is mainly between the 25 years and 30 years age bracket as the graduates have not yet attained financial stability within the first five years of graduating. Below 25 years of age defaulters were found to be relative few and it is most probable that most loanees within this age bracket are either yet to complete their education or are within their one year grace period before the loan repayment period kicks in.
In addition, the regression analysis findings demonstrate a significant and positive relationship between default rates and age and between default rates and loan advances. In this connection, and as indicated by the age distribution analysis, there were more defaulters in the over 25 years age bracket as compared to those below 25 years of age as older persons may have more financial commitments and thus relatively less in available resources to repay the loans.

It is also the case that persons who borrowed higher amounts were also more likely to default as the vagaries of a tough job market make it all the more harder to find a job which has the effect of incurring them higher interest repayment and penalty amounts which prove impossible to service given the job environment.

The findings of the study with regard to the relationship between default rates and period of study indicate a significantly negative relationship in which the rate of default declines as the period of study increases; as such it is a pointer to the possibility that shorter course periods maybe associated with lower job cadres and subsequently lower income scales which in turn diminishes repayment ability and increases the rate of default.

On the whole, the four determinants of student default rates used in the study, namely age, loan advanced, university type and study period, serve to only partially explain overall changes in the student default rates.

In the same vein, the findings of the study did mirror those of Herr and Burt (2005) in finding age a significant contributory factor to the default rate. In line with Choy & Li, 2006; Dynarski, 1994; Lochner & Monge-Naranjo, 2004 the study also found that the more a student borrows the greater the chance of default.
In addition, the findings point to an inverse relationship between study period and default rates and this was attributed to the possibility that students in shorter and less intense courses are likely to find work in lower job entry levels and by extension have less disposable income for debt servicing. These three factors, namely age, loan amount and study period, significantly affect default rates but they are by all means not the only ones as they are only able to partially explain changes in HELB default rates between 2008 and 2012.
CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Since its inception under the auspices of an Act of Parliament in 1995, the Higher Education Loans Board has been mandated with the responsibility of facilitating the disbursement of loans, scholarships and recovering all outstanding loans given to former university students since 1952. The Higher Education Loans board has made tremendous progress towards limiting over-reliance on government funding through increased recoveries (Otieno, 2004). Over 60% of funds disbursed to students are generated from recoveries, which, as of 2011, averaged Ksh 200 million per month up from 50 million per month in 2002. Despite this achievement, student loan defaults persist.

This study endeavored to investigate the determinants of student loan default rate at the Higher Education Loans Board in the 2008-2012 period using multivariate techniques given that only a small number of studies in the past 10 years have used multivariate techniques to examine characteristics of student defaults. Information asymmetry theory, Portfolio Theory and Credit risk models reviewed. An empirical review of past studies by various researchers on student loans was also carried out.

The study found out that the likelihood that a loanee will default on the university loan is related to a complex web of factors including the total level of debt, the age of student, period of study and the institution of study. It would therefore be difficult for the lending
institution to manage default on the basis of a single factor. Developing a default management program may be the first step to reducing default rate with the main focus being to prevent the occurrence of default long before the loan beneficiary graduates. An effective default management program will ensure that the loanees at the point of receipt of the loan are well informed on what their obligations are in relation to the loan so that they make sober decisions about borrowing.

The findings of the study did mirror those of Herr and Burt (2005) in finding age a significant contributory factor to the default rate. In line with Choy & Li, 2006; Dynarski, 1994; Lochner & Monge-Naranjo, 2004 the study also found that the more a student borrows the greater the chance of default.

5.2 Conclusions

From the conclusion and summary of findings above, the study concludes that there are several factors determining the loan default rate at the Higher Education Loans Board. Some of these factors include the university that the beneficiaries attended. Some universities and colleges seem to be harbouring many defaulters because of the likelihood of securing a job of the beneficiary on graduation. This has hampered the Board's ability to recover the loans advanced.

The study also concludes that, the age of the beneficiary also determined the default rate. Just like any other loan, the beneficiaries' age determines the spread of the periodic repayments hence for an elderly person; unless the repayments are set a little higher, there are many chances that such a beneficiary may default on the repayment.
The study also concludes that course period and the course attended by the loan beneficiary plays a key role in the default rates posted by the Higher Education Loans Board. Some courses take shorter but the chances of securing employment for the beneficiary are high hence higher chances of repayment.

From the regression analysis, the study concludes that the four factors studied in this study affect the default rate recorded at the Higher Education Loans Board. This is supported by the higher percentage of the effects of all these factors combined on the default rate.

The study also concludes that student loan programs work well for many students who are able to complete their education and earn sufficient income after graduation to repay their debts within a reasonable period of time. Unfortunately, this scenario is becoming less common as borrowers do not get to be employed after graduation and thus get deeper into debt earlier in the process and do not know about available options that could help them avoid problems down the road. Once these problems begin, debt collection costs and fees accrue rapidly and aggressive collection efforts hit so hard that many borrowers take long to recover. Policy recommendations are required to ensure that borrowers who are able to repay are encouraged to do so and given the flexibility to repay at affordable rates.

In addition, the study findings point to an inverse relationship between study period and default rates and this was attributed to the possibility that students in shorter and less intense courses are likely to find work in lower job entry levels and by extension have less disposable income for debt servicing. These three factors, namely age, loan amount
and study period, significantly affect default rates but they are by all means not the only ones as they are only able to partially explain changes in HELB default rates between 2008 and 2012.

5.3 Policy Recommendations

From the above summary of findings and conclusion, the study draws the following policy recommendations. First, the Government through the Ministry of Finance to increase revenue allocation for the Higher Education Loans Board so as to offer it an opportunity to deliver on its mandate. This is based on the fact that the outstanding loans are growing at an alarming rate at the Higher Education Loans Board. This has largely been attributed to the increased admissions in the public and private Universities in the country thus necessitating the increase on the loan amounts disbursed by the Board.

The study also recommends that the Board increases its aggressiveness in the recovery effort. The Board needs to increase its collaboration with other government agencies like the Kenya Revenue Authority, National Hospital Insurance Fund and National Social Security Fund in getting the loan beneficiaries who have employment but have not taken the imitative to repay their loans. This will go a long way in reducing the levels of loan default rates in the books of the Board.

The study further recommends that the Board becomes more strict in its loan award appraisals especially with the advent of technology to demand as more information as possible so that the process of getting the loan beneficiary after completing the studies are high. This will help reduce the chances of failure to communicate with the loan beneficiary and remind them to repay their loans.
Going forward HELB may seek to match loan amounts with increasing age; that way the older the applicant the less the loan exposure HELB are willing to avail. This may, to an extent, serve to alleviate both the problem of increasing default rates with age and increasing default rates with higher loan amounts.

HELB needs to develop strategies that cut across all universities and build alliances to address default prevention. This could include extensive entrance and exit counseling on the university loan issues that should be mandatory for all students receiving funding from HELB. Evaluate what works and develop effective counseling programs during registration/orientation process for new students and/or during the clearance process for completing students.

Given that there are other factors, not included in the study, that greatly contribute to student default rates, it is advisable for HELB to also look into the impact of other social and economic factors that affect the students’ ability to repay.

### 5.4 Limitations of the Study

This study faced several limitations. First, the study relied on secondary data from the records of the Board. However, the Board had a system upgrade and thus the information was scattered all over in several systems hence making it difficult to get some very important data.

Another limitation faced by the study included the fact that the information collected was meant for other purposes other than this research. This therefore meant that the researcher
had to customize the data by combining different sources and records at the Board which was time consuming.

The study encountered limitations of data availability as a result of which due to the missing of data in some periods some independent variables could not be tested as a result of which the study narrowed its scope to testing four independent variables.

By extension the limiting of the study to four independent variables resulted in only a partial explanation of the factors that affect student default rates at HELB. The study only took into account an approximately five year period to June 2012 and as such does not capture the entire performance since the inception of HELB in 1995.

5.5 Suggestions for further studies

The objective of this study was to investigate the determinants of student loan default rate at the Higher Education Loans Board. The study considered four main factors including age, university attended, course study period and total amounts advanced. This study therefore suggests that further study be done to determine the performance of Higher Education Loans Board on the collection from year to year compared to the loan balances. This would help the Board in the development of strategies for increased collection hence reduced loan default rates.

The study further recommends that another study be done to establish the causes of loan beneficiaries not paying up their loans. The existing studies have not pointed out with certainty the main causes of loan default as the default rate continues to grow year after another.
The study further suggests that further study be done to establish the relationship between economic conditions in Kenya and the HELB loan repayment status. From time to time, the country has witnessed various changes in its macroeconomic variables. This would help the Board in developing necessary strategies to improve the collection from beneficiaries throughout the year and in all seasons.

Studies in this line of discourse may seek to expand multivariate models to include other social and economic factors that affect default rates in addition to age, loan amount, type of university and study period.

Future studies may also seek to study HELB’s strength in contract enforcement in areas such as following up on repayment, collection practices and collection of data about the students they are giving loans.
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Ziderman, A. (2002). “Alternative objectives of national student loans schemes:
## APPENDIX A

### Regression Statistics

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
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<tbody>
<tr>
<td>Multiple R</td>
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</tr>
<tr>
<td>$R^2$</td>
<td>0.199719</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.197200</td>
</tr>
<tr>
<td>Standard Error</td>
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<tr>
<td>Observations</td>
<td>1276</td>
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</tbody>
</table>

### ANOVA

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
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<tr>
<td>Regression</td>
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<td>184.7517</td>
<td>46.1879</td>
<td>79.2980</td>
<td>0.0000</td>
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<tr>
<td>Residual</td>
<td>1271</td>
<td>740.3066</td>
<td>0.5825</td>
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<td></td>
</tr>
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<td>Total</td>
<td>1275</td>
<td>925.0583</td>
<td></td>
<td></td>
<td></td>
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</table>

### Standard Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
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<td>-7.41832</td>
<td>0.00000</td>
<td>-6.33627</td>
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<td>Age</td>
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<td>Univ.(public/priv)</td>
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<td>-0.53738</td>
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<td>-0.53237</td>
<td>0.30343</td>
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<tr>
<td>Study period</td>
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<td>0.04192</td>
<td>-2.90900</td>
<td>0.00369</td>
<td>-0.20421</td>
<td>-0.03971</td>
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