LOAN RECOVERY OF HIGHER EDUCATION LOANS

Seon Johnson Harper, Dr. Kennedy Simons

School of Finance, Accounting and Economics

Abstract

Higher Education Loans Board (HELB) is the major source of financing higher education in Kenya. Non-repayment of the loan among university students after they have graduated is a major drawback on funding education for other needy students. Non-recovery of loans leads to non-sustainability of the education fund which leads to a number of loan applicants unable to get the loans which are meant to assist them cater for their learning expenses. In Kenya, 40% of students’ loans are in default. The main objective of the study was to investigate the antecedents of loan recovery of higher education loans in Kenya. Specifically, the study sought to determine demographic factors affecting loan recovery of Higher education loans in Kenya, the economic factors affecting loan recovery of Higher education loans in Kenya and the loan repayment factors affecting loan recovery of Higher education loans in Kenya. The study was informed by the life-cycle model, Neoclassical development theory and ability-to-pay theory. The study took the quantitative approach drawn from the positivism research philosophy. The study targeted the quarterly data from the Higher education Loans Board for the last 10 years (from the year 2012 to 2022). Items to be collected were quarterly data on loan repayment factors, economic factors, demographic factors and loan recovery of higher education loans. The study used secondary data which was collected from the Higher education Loans Board quarterly data reports for 10 years (from the year 2012 to 2022). The data was analyzed by use of descriptive and inferential statistics since the secondary data is a panel in nature. A 0.05 significance level (95% confidence interval) was the error variance used. Results were then presented in tables, diagrams and charts. The study recommended HELB to implement stricter policies and regulations to ensure timely and effective loan repayments. The study recommends HELB alongside the Ministry of Finance and Ministry of Education to develop and promote financial literacy programs that target borrowers to improve their understanding of loan repayment obligations, interest rates, and financial management. The study recommends the strengthening of Financial Aid Programs which can include increasing the availability of grants and scholarships specifically tailored to support students with lower income levels or from marginalized communities.

jharper@edithcowanjournals.org
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INTRODUCTION

Background of the study

Students’ loans are loans given to higher education students to help them pay for educational expenditures such as tuition and research (Jackson, 2002). Students’ loans are becoming increasingly essential as a result of the government’s failure to maintain simultaneous increases in financing for students' financial help. As the higher education industry develops and expenses rise, both emerging and developed countries are becoming more reliant on student loans to fund higher education (Marginson, 2016; Boatman et al, 2022). Due to the rising significance of higher education in Kenya, there is a surge in the expansion of student loan programs to fund higher education. Individuals and society as a whole benefit from higher education in terms of prestige and earning capacity as a result of economic success, democratic development, and social fairness (Boatman et al, 2022).

The student loan programs are intended to allow potential students from low-income households to invest in their future by providing them with financial assistance when necessary and enabling them to pay back when they complete their studies. Notwithstanding significant financial loads, student loans enable students who might be unable to do to invest in higher education, therefore eliminating socioeconomic inequities in access. Thus, the government loans encourage the development of higher education and give wider access while moving the responsibility of growing expenses away from the government and onto students and their families (Callender & Mason, 2017). However, the recovery of these loans is a barrier to the implementation of these programs, notwithstanding the government's investment. The students' loans must be paid back to establish a revolving loan fund to assist other needy students. Students’ loan repayment has been impacted by poor loan recovery connected with defaulters' loan beneficiaries, which is influenced by their age, gender, and attitude toward loan repayment (Mueller & Yannelis, 2019).

By accelerating their repayment, less interest can accrue on your loans, saving them money on the overall cost of the loan. They are able to reduce their financial stress: Paying off students’ loans can give one an incredible sense of achievement — and it can lower your financial stress (Kwang’a, 2020). To the higher education loans board (HELB), the repayment of loans increases its lending capacity to maintain and sustain its revolving fund and offer more loans to the successive students. The rise in non-performing loans has left HELB battling a huge deficit, made worse by falling government subsidies and an inability to attract new funding (Onang’o & Orodro, 2016). Student loan default suggests that the student/beneficiary is not able to make payments following the terms of the student loan contract. Even if one does not graduate or has difficulty finding work after graduation, they are liable for repaying their student debts.

Given the importance of student loans in financing higher education, the ongoing growth in student loan default rates is alarmingly high (Callender & Mason, 2017; Ng’ang’a, 2016). It has significant implications not just for the government budget (more than 92 per cent of all student loans are state loans), but also for the borrowers who have defaulted on their student loans. Student loans, unlike other forms of debts, are not dischargeable in bankruptcy, and income can be garnished for the remainder of a borrower’s life. Thus, in addition to the usual stigma
associated with loan defaults (such as tainted credit scores and restricted access to credit markets), the expectation of wage garnishment may affect student loan borrowers’ job search and incentives to work, while the fact that loan defaults can be observed by employers may affect their chances of finding a job in the first place (Mueller & Yannelis, 2019).

While the HELB Act of 1995 in Kenya, does not peg loan repayment to employment, HELB appreciates the fact that owing to the prevailing economic situation including the unemployment and underemployment challenges, the loan beneficiaries’ repayment ability may take some time to stabilize. Further, HELB has previously offered 100% Penalty Waiver Campaigns in 2013 where 10,110 beneficiaries paid off their loans valued at Kshs 1.3B and in 2018 where 9,998 beneficiaries paid off their loans valued at Kshs 870M. Likewise, as at July 14 2022, HELB announced that the number of former university students defaulting on HELB dropped 14 percent following a four-month penalty waiver that ended June 30 (Igadwah, 2022). This has significantly shown the efforts of the board to ensure improve loan repayment by the student beneficiaries. There are, however, many student alumni who believe they may be in a position to repay their loans but may have chosen to ignore numerous letters, short messages (SMS) and calls to comply or to come and engage on a flexible repayment plan (HELB, 2020). Thus, this current study seeks to shed light on the problem of student loan recovery and the factors that affect student default rates.

Globally, most nations' higher education was heavily subsidized by the government. With the increase in the appetite for higher education without a matching rise in many nations' budgets, various national governments sought alternate financing systems, such as student loan programmes. Government-sponsored student loan programs exist in over seventy nations and regions worldwide. In most countries, student loan institutions have traditionally been run by public agencies (Ngali, 2013; Ngali et al., 2018). In 2019–2020, 95% of the 1.5 million undergraduates in England took out a government-funded student loan, worth an annual average of $19,994.1 (Bolton, 2021; Higher Education Statistics Agency, 2019; Irwin et al., 2021). England had the highest average student loan debt at graduation among OECD countries at around $50,000 in 2017/2018 (OECD, 2019). The total number of borrowers still owing Higher Education loans increased by 6.0% reaching 5.3 million at the end of April 2019 compared to 5.0 million at the end of April 2018. This was attributed to factors such as; the average repayment amount for Plan 2 borrowers, reduction in voluntary repayments from 2017-18 onwards and varying interest rates charged on the loans (Friedman, 2017; Student Loans Company, 2019).

In Thailand, Thai graduates see 30% of their income going into repayment. Results varied in Indonesia, with the poorest paying up to 85%. This was attributed to credit risk where the Student Loans Scheme Committee resorted to use of credit rating as a device for discouraging default by recalcitrant borrowers (De Andrade, 2019). Campus loans (as they are termed in China) arose based on both a rising demand for loans by students and the emergence of online loan platforms. Online loan consumption has expanded drastically among college students and by 2019 (China’s Youth Debt Status Report, 2019), 86.6% of young Chinese were using online loans, and 44.5% were materially indebted. Moreover, the 2017 China Online Lending Industry Research Report projected that the number of online loan users in China would exceed 300 million in 2020 (Zhang et al., 2021).

By studying college students in Henan Province, Yang and Wang (2019) discovered that personal conduct, lifestyle, and consumption desire affected campus loan behaviour in
decreasing order from strong to weak. Meanwhile, in Beijing, Hao et al. (2019) discovered that campus loan demand was positively associated with years of education, monthly living expenditures, university financial support, and spending preferences. Parents' level of education, college major, and ads, on the other hand, were found to have a negative impact on campus loans. De Andrade (2019) by describing higher education funding and repayment in Brazil, indicated the unwillingness of the private sector to lend comes from the fact that if someone does not achieve the benefits attributed to owning a degree and stops repaying, the knowledge cannot be taken off of the person nor can they work for free because it would be considered slavery.

Student loans schemes have intensified in the African context and have been accelerated by the factors such as the need to reduce public expenditure on higher education and shift its costs to the major beneficiaries; improve the quality of higher education to make it more competitive in the global labour market; and make higher education more equitable and accessible (Kossey & Ishengoma, 2017). Likewise, the upsurge in the number of students qualifying for higher education has not only caused financial constraints but has also driven many national governments in Africa to seek alternative funding mechanisms to be able to meet the rising demand for higher education in their respective countries. These problems include the inability to: create credible loan boards, identify the right loan beneficiaries, determine appropriate loan amounts, create reliable data-bases, and institute effective and efficient loan disbursement and recovery systems (Onen et al., 2015). In light of this challenge, the use of student loan schemes as an alternative means of funding higher has become popular in different African countries including Ghana, Kenya, Tanzania, Namibia, South Africa, Nigeria; and recently, Rwanda and Uganda.

However, it has come with its share of increasing student loan recovery and loan defaults. Debt and default among black or African-American college students are at crisis levels, and even a bachelor’s degree is no guarantee of security: black BA graduates’ default at five times the rate of white BA graduates (21 versus 4 per cent), and are more likely to default than white dropouts (Scott-Clayton, 2018). For instance, in Tanzania, the Higher Education Students’ Loans Board (HESLB), has noted that loan recovery remains a major challenge, undermining its effective performance. Ally (2015) observes that, since its inception, the Board has confronted several challenges, including the continuous increase in the number of needy students; rising tuition fees; budget constraints; and negative public attitudes towards the scheme, possibly as a result of the HESLB’s “soft repayment terms”. Ally (ibid.) notes that repayment is set at 8 per cent of gross salary (rather than basic salary), and is spread over ten years. There is a paucity of research on the challenges confronting the Board from stakeholders’ perspectives (Kossey & Ishengoma, 2017).

In Ethiopia, demographic factors (age and household size), socio-economic factors (educational level and purpose of borrowing), and institutional factors were among the factors that influenced loan repayment rate of smallholder borrowers in the study area (Kassegn & Endris, 2022). In Ghana, by 2013, macroeconomic and bank related factors such as high inflation, exchange and interest rate, time of disbursement, time of repayments being too short and the credit being inadequate also contributes to the inability of Fisher folks credit non-payments (Aduku, 2013). Baidoo, Yusif and Ayesu (2020) that enhancing financial literacy improves loan repayment significantly which will in turn ensure sustainability of the financial institutions. The same has been seen in the case of Lesotho where the repayment of higher education financing encounters challenges, including graduates living in relatively poor
regions find it hard to fulfil their obligations with ease and often incur repayment burdens that may translate to 40 per cent of their income. However, the Lesotho government’s higher education funding does not peg its repayment criteria to the amount of the borrower’s salary. Instead, every loan has to be repaid within five years in equal monthly instalments, with repayments commencing in the first month of a borrower’s employment after having completed his or her studies. Despite the obligation to repay in equal monthly instalments, borrowers have the freedom to accelerate their loan repayments (Nkisi, 2021).

In Kenya, student loaning is pegged by the Higher Education Loan Board (HELB). HELB has embraced Strategic Planning as a key performance improvement initiative in enabling the successful delivery of its mandate. To execute the strategy, the Kaplan and Stratton model of Balance Score Card (BSC) is deployed to implement the five-year strategic plan. The just ended Strategic plan (2013 – 2018) came to a conclusion in June 2018 with admirable results of a very ambitious strategy that the Board was laying a foundation for a journey of moving slowly out of Government Funding dependency through External Resource Mobilization as a key strategic posture (HELB, 2019). In 2013, HELB commenced the implementation of a five-year strategic plan 2013-2018. The pillars that were in this plan were financial suitability, customer service, internal business process re-engineering and institutional capacity and corporate Governance. As of 30th June 2018, when the strategic plan period ended, the plan had been implemented at over 80% level with the balance of 20% being items that were ongoing and are expected to be rolled over to the next plan period 2019-2023.

The focus was to create higher education sustainable revolving Fund through sophisticated hybrid partnerships with Counties/Constituencies, Scholarship granting organizations, Corporates, Development Partners, Individuals and sector-specific funds. This has been achieved with admirable results that have indeed helped the Board grow its Balance sheet from Kshs. 32Billion in June 2012 to a Balance Sheet size of Kshs. 71.2B as of September 2018. The students under the funding programme have also grown from 120,000 in 2012/2013 to the current 277,000 with the annual student budget growing from Kshs. 5.7Billion to Kshs. 11.2 billion in 2018 while loan recoveries grew from Kshs. 2.7 billion in 2012 to hit an all-time high of Kshs. 4.9Billion while Exchequer capitation has grown from Kshs. 2.7B to Kshs. 7.44Billion by June 30th, 2018 (HELB, 2019). As at July 14 2022, HELB announced that the number of former university students defaulting on HELB dropped 14 percent following a four-month penalty waiver that ended June 30. Likewise, loan accounts in default currently stand at 94,216 from the 109,661 recorded by February, with unpaid loans standing at Sh10.2 billion. This has been attributed to HELB offering a 100 percent penalty waiver from March 1 to encourage beneficiaries to repay following the impact of the Covid-19 effects on the economy. The penalty waiver campaign dubbed ‘Kamilisha Malipo ya Helb’ collected Sh559.72 million, contributing to the overall Sh5.2 billion loan recoveries for June 2022 (Igadwah, 2022).

The above instances of global, regional and local burden of repayment of student loans are an indication that the advantages envisaged by student loans are being outweighed by the burden of defaults and lack of revolving funds to ensure sustainability even at the global level. Thus, there is a need for further studies to be conducted to fill and address the gaps.

Loan recovery of higher education loans refers to the process by which borrowers repay their loans after completing their education. However, several factors can influence borrowers' ability to successfully repay their loans. Understanding these factors is crucial for policymakers, institutions, and borrowers themselves to develop strategies and support systems.
to enhance loan recovery rates. Achieng (2019) indicated that the number of years since completion of undergraduate study and gender though statistically significant, are negatively related to undergraduate HELB loan default. Outstanding loan, total penalty charged on principal loan, principal loan awarded to beneficiary for the period of undergraduate study, employment status and age of beneficiary significantly affect undergraduate HELB loan default as per the findings.

Another primary factor influencing loan recovery is the borrower's socioeconomic background, including income and family wealth. Research indicates that individuals from lower-income families and disadvantaged socioeconomic backgrounds tend to face more challenges in loan recovery (Nandini & Shubha, 2021). For instance, Scott-Clayton and Li (2017) found that the black-white disparity in student loan debt more than triples after graduation, suggesting that borrowers from racial and ethnic minority groups may experience difficulties in loan repayment due to socioeconomic disparities. Nandini and Shubha (2021) indicated that demographic factors (age and household size) and socio-economic factors (educational level, land size, income, purpose of borrowing) were among the factors that influenced loan repayment rate of smallholder borrowers in the study area.

The employment status and income level of borrowers play a crucial role in loan recovery. Research suggests that borrowers with stable employment and higher income are more likely to successfully repay their loans. Conversely, individuals facing unemployment or underemployment may struggle with loan repayment (Hales, 2021). Houle and Warner (2020) examined the impact of race and education on the student debt crisis and found that black borrowers, particularly those who attended for-profit institutions, faced significant challenges in loan recovery due to limited job prospects and lower earnings.

The characteristics of the loans themselves, such as loan terms, interest rates, and repayment options, can significantly affect loan recovery. Studies have highlighted that favorable loan terms, including lower interest rates, longer repayment periods, and flexible repayment options, can facilitate loan recovery (Kwang’a, 2020). Akers and Chingos (2017) discuss the rhetoric and reality of student debt and emphasize the importance of loan terms and repayment options in helping borrowers manage their loans effectively. Kiros (2023) revealed that loan repayment period, grace period, and timeliness of loan release have a statistically significant effect on the loan repayment performances of borrowers. Loan size has a statistically insignificant effect on the loan repayment performance of borrowers. Nandini and Shubha (2021) also reveal that characteristics of loan and lender influence the repayment to the maximum extent.

Financial literacy, education and knowledge play a vital role in loan recovery. Individuals with a better understanding of loan terms, repayment options, and personal finance management are more likely to navigate the loan repayment process successfully. Xiao, Newman, and Prochaska (2020) highlight the impact of financial socialization in childhood and youth on adult financial well-being. They argue that early exposure to financial concepts and education can enhance financial literacy and positively influence loan recovery outcomes. Endris (2022) also showed that enterprise manager education level, collateral security, and financial literacy positively and significantly affected loan repayment performance while distance to lending institutions, repayment period, and loan diversion negatively affected it.

Johansson and Lundborg Ander (2021) acknowledged that the primary factors influencing the recovery of student loans include the repayment plan, the interest rate, and the policy of
payment deferment. These terms have a great impact on the repayment burden of the loan beneficiary and the number of built-in subsidies that the lending entity allows. Rajabu (2020) shows that there is a positive relationship between willing to pay back loan and employment, income level, parent, awareness and penalty. The finding also discovers that the factors that affect repayment of higher education loan include income difference among beneficiaries and unemployment rate to beneficiaries.

Overall, the factors affecting loan recovery of higher education loans are multifaceted, encompassing socioeconomic background, employment and income, loan characteristics and financial literacy. Understanding these factors can help policymakers, institutions, and borrowers develop strategies and support systems to enhance loan recovery rates and mitigate the challenges faced by borrowers in repaying their higher education loans. Therefore, the current study found it worthwhile to investigate how demographic factors, economic factors and loan repayment factors affecting loan recovery of Higher education loans in Kenya.

Statement of the Problem

Around the world, students loan schemes are concerned about sustainability of their revolving funds. According to Ngali and Warue (2016), the sustainability of the Higher Education Loans Board fund is pegged to recovery of mature loans which are then ploughed back and disbursed to subsequent generations. However, loan recovery has faced major draw backs since 1980s when the portfolio at risk was 99%. Owing to the ongoing recovery efforts, the quality of loan book has since improved to 62% as reported in 2015 (HELB, 2015) with a corresponding portfolio at risk of 38%. Despite the growth in loan book quality, the portfolio at risk is still way far low as compared to the industry average of 14% default rate. The problem has been escalated by the unemployment of loan beneficiaries, retrenchment and downsizing by employers, underemployment of loan beneficiaries, changing employment trends from long term to short term contracts, slow economic growth and escalating cost of living and migration of loanees to other countries (HELB, 2021).

The board has used various strategies in the past to recover the student loans including use of strategic partnerships, credit information sharing to obtain information on defaulters, negative listing of defaulters to credit reference bureaus and obtaining information from professional bodies. Loan collection procedures includes inspecting of employers in the whole of Kenya, penalty waiver offers to defaulters, use of guarantors to guarantee defaulters’ loans, enhanced recovery data analytics and use of media adverts to encourage loanees to repay the loans among many others. HELB has also relied on technology where the use of short text message to remind loanees, mobile phone payment options, use of emails correspondences and social media activities have been increased. During the year 2021, there was a recorded 16% overall target miss. That is, at least 109,661 HELB loan former beneficiaries have defaulted on their payments, accounting for as much as US$109 million as at the end of 2021 (HELB, 2021). These loan defaults have been one of the biggest challenges for HELB incapacitating its lending capacity which is nearly crippled at a time when more students than ever before are seeking loans. The loans currently attract an interest rate of 4% while the cost of the funds is about 8%, which means that, in the long run, the fund is shrinking without a matching government capitation (HELB, 2022). The above instances of escalating loan non-recovery from the beneficiaries indicate that the institution lacks the ability to maintain its revolving fund and underming its ability to disburse student loans on time and sufficiently. Despite the cited antecedents of loan recovery of higher education loans in Kenya very few have been done in Kenya especially up to the year 2022. For instance, Kiplimo et al. (2017) assessed the effect of monthly default penalties on default on higher education loan
recovery in Kenya. Engede (2015) looked into the strategies used by Higher Education Loans Board in loan recovery from beneficiaries in Kenya. Ng’ang’a (2016) looked at the factors affecting the repayment of education loans among university students in Kenya. To the best of our knowledge, the studies have not focused exhaustively on the variables of loan recovery (conceptual gap) and fail methodologically to capture up to 2022 data on loan recovery. Zamro (2016) looked into the antecedents of the educational loan repayment among the POLIMAS students in Malaysia but the findings are not generalizable to the case of Kenyan students. Therefore, the current study finds it worthwhile to investigate the antecedents of loan recovery of higher education loans in Kenya using data from 2012 to 2021.

**General Objective**

The main objective of the study was to investigate the antecedents of loan recovery of higher education loans in Kenya.

**Specific Objectives**

i. To determine the effect of demographic factors affecting loan recovery of Higher education loans in Kenya

ii. To determine the economic factors affecting loan recovery of Higher education loans in Kenya.

iii. To determine the loan repayment factors affecting loan recovery of Higher education loans in Kenya.

**Research Hypotheses**

H01: There is no statistically significant relationship between demographic factors and loan recovery of Higher education loans in Kenya.

H02: There is no statistically significant relationship between economic factors and loan recovery of Higher education loans in Kenya.

H03: There is no statistically significant relationship between loan repayment factors and loan recovery of Higher education loans in Kenya.

**Significance of the Study**

**Higher Education Loans Board**

This study will help the leadership in higher education loans board to understand the requisites of how to model dynamic strategies revolving around demographic factors, economic factors and loan repayment factors affecting loan recovery of Higher education loans in Kenya. This will help them to innovatively strategize on how to optimize loan recovery of Higher education loans in Kenya. Likewise in understanding the mechanisms to ensure loan recovery, the management will be able to ensure that the revolving fund is active for sustainability.

**Policy Makers**

The study likewise aims to present recommendations to policymakers such as the Ministry of Finance and Ministry of Education on how to ensure appropriate and optimum funding of higher education loans. The study will help the Ministry of Education to develop and formulate policies and reforms that ensure HELB can operate seamlessly towards ensuring the goal of higher education financing and loan recovery is achieved.

**Scholars and Researchers**

Specifically, academicians can advance their research on the antecedents of loan recovery and default rates of higher education loans in Kenya. The researchers will be able to criticize the
conclusions of this research in comparison to other studies and extrapolate policy, theoretical and practical recommendations in their studies.

LITERATURE REVIEW

Theoretical Review

A theory is a set of interrelated constructs (concepts), definitions, and propositions that present a systematic view of phenomena by specifying relations among variables, to explain and predict the phenomena (Kivunja, 2018). A good study aligns its objectives to a theoretical background an approach that helps researchers to challenge and expound on existing forms of knowledge (Alavi et al., 2018). The study was informed by the life-cycle model, Neoclassical development theory and ability-to-pay theory.

The Life-Cycle Model

According to the life-cycle model was developed by Browning and Crossley (2001). The model forecasts borrowing before entering the labor force, wealth building throughout working life, and retirement dissaving (Browning & Crossley, 2001). It examines an individual's lifetime spending and saving habits. Consumption and saving decisions are influenced by money gained during a person's lifetime. The model is comprised of two major components the lifetime budget limitation and individual decision in the face of that constraint. A possibility is that the correlation of consumption with business cycles could be explained by some form of intertemporal substitution. This would follow if household consumption reacts to interest rates and interest rates are correlated with the business cycle (Apps & Rees, 2001; Baxter & Jermann, 1999).

Consider the consumption/saving decision of a person who intends to work for a certain number of years and then retire for a certain number of years. Assume their disposable income is the same throughout the year, and he additionally receives an annual retirement income (again the same in every year). According to the consumption life-cycle model, the person first computes the discounted present value (DPV) of lifetime income before deciding to save and offset some lifetime obligations. If the real interest rate is zero, then the DPV calculation simply involves adding income flows across years. It is assumed that the individual wants to consume at the same level in each period of life. This is called consumption smoothing (Apps & Rees, 2001).

While the model provides valuable insights into economic decision-making, it is not without its critiques. The life-cycle model relies on a set of simplifying assumptions that may not fully capture the complexities of real-life situations. For example, it assumes that individuals have perfect foresight, accurately predict their future income and expenses, and make rational decisions based on optimizing their lifetime utility. These assumptions may not align with actual human behavior, which can be influenced by imperfect information, bounded rationality, and behavioral biases (Thaler & Sunstein, 2008).

The Life-Cycle Model assumes perfect certainty about future income, which may not align with real-world income dynamics. Income uncertainty can significantly impact individuals’ consumption and saving decisions. Dynan (2012) highlights that income volatility and uncertainty can lead to suboptimal consumption and saving behavior, challenging the assumptions of the Life-Cycle Model. The Life-Cycle Model often abstracts from income and wealth inequality, assuming homogeneous preferences and opportunities among individuals.
However, inequality can significantly impact individuals' consumption and saving behavior. Piketty (2014) emphasizes the role of wealth distribution and inequality in shaping savings behavior and challenges the assumptions of the Life-Cycle Model by highlighting the impact of wealth concentration.

It is important to note that while these critiques highlight limitations of the life-cycle model, it still provides a valuable framework for understanding general patterns of consumption and saving behavior. Researchers continue to refine and expand upon the model to address some of these criticisms and develop more comprehensive frameworks that incorporate a broader range of factors and individual characteristics. Thus, if income during working years exceeds income during retirement years, the individual will save during working years and spend during retirement. If the real interest rate is not zero, the essential concept remains the same—an individual smooths consumption based on a lifetime budget constraint—but the computations get more difficult. The lifetime budget restriction must be defined specifically in terms of the discounted present values of income and consumption. Thus, the model is very informative of how the demographics of an individual will affect their lifetime consumption and expenditure based on the market constraints. Thus, the model informs the intent to determine the effect of demographic factors affecting loan recovery of Higher education loans in Kenya.

**Neoclassical Development Theory**

The theory was developed from the concept of classical economics in the 18th and 19th centuries with its proponents being Smith (1776) and Ricardo (1951). John Maynard Keynes also contributes by stating that the growth of the economy is determined by economic factors. That is, a country’s economic growth will decrease with an increasing population and limited resources (Keynes, 1937). If the level of the population (labour) and the level of output increases, the per capita wage increases and consequently, the surplus or profit (Keynes, 2018). The theory explains economic growth as a result of capital accumulation and the re-investment of profits derived from specialization, the division of labour, and the pursuit of comparative advantage (Ricardo, 1955; Smith, 1776). The explanation of the forces underlying the accumulation process was seen as the heart of the problem of economic growth. Associated with accumulation is technical and industrial change as expressed in the division of labour and changes in methods of production. Smith, in particular, placed heavy emphasis on the process of extension of the division of labour, but there is, in general, no systematic treatment of the relation between capital accumulation and technical change in the work of the classical economists (Ricardo, 1951).

John Maynard Keynes (Keynes, 1937; Keynes, 2018) states that an economy would automatically adapt to provide full employment even in equilibrium, and believed that the volatile and ungovernable psychology of markets would lead to periodic booms and crises (Keynes, 1937). This can be accelerated by the investment in industrial policy frameworks. Solow (1956) likewise, adds to the argument by stating that since the economy can regulate itself to a natural real GDP (grounded on Say’s Law), the supply thus is the creator of its demand.

Critics argue that the Neoclassical Development Theory places too much emphasis on market-oriented policies and overlooks the importance of structural transformation in achieving sustainable development. Structural transformation involves the shift of resources from traditional sectors to more productive and dynamic sectors. Chang (2017) criticizes the narrow
focus of the Neoclassical Development Theory and highlights the need for a more comprehensive understanding of development that incorporates structural transformation.

The theory tends to downplay the role of institutions in economic development. Critics argue that institutions, such as property rights, rule of law, and governance, play a crucial role in shaping economic outcomes. Acemoglu and Robinson (2012) highlight the importance of inclusive institutions and argue that the Neoclassical Development Theory overlooks the institutional determinants of development.

Critics also argue that the Neoclassical Development Theory fails to adequately address income inequality and its implications for development. Income inequality can hinder social cohesion, limit access to opportunities, and result in unequal distribution of benefits from economic growth. Stiglitz (2012) criticizes the Neoclassical Development Theory for neglecting the negative consequences of inequality and emphasizes the need for more inclusive development policies.

These critiques highlight the limitations of the Neoclassical Development Theory and the need for a more comprehensive and nuanced understanding of development that incorporates factors such as structural transformation, institutions, inequality, market imperfections, and contextual specificities. Thus, the theory is of the opinion that a steady economic growth rate results when three economic forces come into play: labour, capital, and technology. The simplest and most popular version of the Neoclassical Growth Model is the Solow-Swan Growth Model developed by Robert Solow in the 1950s (Solow, 1956) supplemented by the theory of production by Cobb Douglas (Cobb & Douglas, 1928). The theory is used in this study to explain the effect of economic factors on loan recovery of higher education loans in Kenya.

Ability-to-Pay Theory

The ability-to-pay approach was coined by Kendrick (1939) whose idea was that everyone should make an equal sacrifice in paying taxes, and because people with more money effectively have less use for a given dollar, paying more of them in taxes does not impose a greater burden. However, the theory was espoused by none other than Adam Smith, considered the father of economics, in 1776 (Kendrick, 1939; Smith, 1937). The theory treats government revenue and expenditures separately. Taxes are based on taxpayers’ ability to pay; there is no quid pro quo. Taxes paid are seen as a sacrifice by taxpayers, which raises the issues of what the sacrifice of each taxpayer should be and how it should be measured (Seto & Buhai, 2005; Chauke, Sebola & Mathebula, 2017).

This theory rests on the assumption of declining marginal utility of money with an increase in its supply and the existence of sacrifice. Analysis discloses each of these supports to be defective and thereby breaks down the theory of ability to pay. These grounds should be founded on the broad realities of the economic system. Levies and rates have economic effects, and these effects entail social consequences. The choice of the prices to be laid and rates at which they are to be applied expresses a preference for one set of economic effects, and hence of social consequences, to another (Tapang, Onodi & Amaraihu, 2018). However, the theory has been criticized for its penalized effect on hard work that reducing the incentive to make money (Dodge, 2004).

Critics argue that the Ability-to-Pay Theory may not achieve its intended goal of promoting equity in taxation. The theory assumes that individuals with higher incomes or wealth have a greater ability to pay taxes. However, critics argue that this approach may not adequately
consider the differential impact of taxes on individuals across various income levels. Saez and Stantcheva (2016) discuss the limitations of the Ability-to-Pay Theory in addressing distributional issues, highlighting the need for additional considerations in tax policy.

The Ability-to-Pay Theory assumes that individuals will accurately report their income or wealth and pay taxes accordingly. However, critics argue that this may not align with real-world behavior, as individuals may engage in tax avoidance or evasion strategies to minimize their tax burden. Scholars like Zucman (2014) have highlighted the impact of tax avoidance and offshore tax havens, emphasizing the challenges faced in implementing the Ability-to-Pay Theory effectively.

Implementing the Ability-to-Pay Theory can be complex and impose significant administrative burdens on tax authorities. The theory relies on accurate measurement and assessment of individuals’ income or wealth, which can be challenging to determine precisely. This complexity and administrative burden can lead to inefficiencies in tax systems. Sandmo (2014) discusses the trade-offs between the goals of fairness and administrability in tax policy, highlighting the challenges associated with the Ability-to-Pay Theory.

Nevertheless, the theory has been found instrumental in the current study for its contribution toward a loan repayment culture of loan beneficiaries. In so doing, the theory encourages incentives on individuals and business with low-income earnings as opposed to those with high capacity. The theory is used in this study to explain the effect of loan repayment factors on loan recovery of higher education loans in Kenya.

**Conceptual Framework**

A conceptual framework explains the key concepts or variables and the hypothesized; comprising of the thoughts on the identification of the research topic, the problem to be investigated, the questions to be asked, the literature to be reviewed, the theories to be applied, the methodology to be used (Van der Waldt, 2020). The conceptual framework used in the study shows the anticipated the relationship between the antecedents (demographic factors, economic factors and loan repayment factors) of loan recovery of higher education loans in Kenya.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic factors</strong></td>
<td><strong>Loan Recovery of Higher Education Loans</strong></td>
</tr>
<tr>
<td>- Income level</td>
<td>- Amount of Unrecovered Loans (NPLs)</td>
</tr>
<tr>
<td>- Educational level</td>
<td></td>
</tr>
<tr>
<td><strong>Economic factors</strong></td>
<td></td>
</tr>
<tr>
<td>- Economic growth</td>
<td></td>
</tr>
<tr>
<td>- Employment rate</td>
<td></td>
</tr>
<tr>
<td>- Inflation rate (CPI)</td>
<td></td>
</tr>
<tr>
<td><strong>Loan repayment factors</strong></td>
<td></td>
</tr>
<tr>
<td>- Lending interest rate</td>
<td></td>
</tr>
<tr>
<td>- Interest Penalty</td>
<td></td>
</tr>
</tbody>
</table>
Summary of Reviewed Literature

On theoretical level, the Life Cycle Model, Neoclassical Development and Ability to Pay theories inform the recoverability of students’ loans worldwide and specifically in developing countries like Kenya. Past research has, therefore, shown that loan recovery of higher education loans is derivative of many factors; among them are the demographic factors, economic factors and the loan repayment factors. From the review, some of the factors have been found to have positive effect on loan recovery of higher education loans; others having negative effect on loan recovery of higher education loans while others have both positive and negative effects on loan recovery of higher education loans. In extension, the studies have shown that the rate of student loan recovery is variant based on the economic capacity of the economy with it being low in developing economies like Tanzania and Kenya.

Although there are many studies on these factors affecting loan recovery of higher education loans, the focus has been largely on their effect in different. For instance, the study by Boatman et al. (2022) and Hales (2021) were based in the United States, Makimu (2017), Rajabu (2020) and Johansson and Lundborg Ander (2021) in Tanzania, Bandyopadhyay (2016) in India, Dary and James (2018) in Ghana, Nkisi (2021) in Lesotho while the one by Zhang et al. (2021) in China. Zamro (2016) looked into the antecedents of the educational loan repayment among the POLIMAS students in Malaysia but the findings are not generalizable to the case of Kenyan students. Due to contextual disparities and economic differences, the findings do not pinpoint the measures that are on the ground in Kenyan context.

In Kenya, very few studies, up to date have been conducted on the issue at hand especially at HELB. Kiplimo et al. (2017) assessed the effect of monthly default penalties on default on higher education loan recovery in Kenya. Engede (2015) looked into the strategies used by Higher Education Loans Board in loan recovery from beneficiaries in Kenya. Ng'ang'a (2016) looked at the factors affecting the repayment of education loans among university students in Kenya. To the best of our knowledge, the studies have not focused exhaustively on the variables of loan recovery (conceptual gap) and fail methodologically to capture up to 2022 data on loan recovery. This presents a knowledge gap which the current study sought to fill by investigating the antecedents of loan recovery of higher education loans in Kenya in the past 20 years (from the year 2002 to 2021).

Research Gap

The goal of the review of literature is to justify the proposed research. This involves the review of past published literature to identify and summarize relevant theories and empirical researches related to the research concept; to identify arguments for and against theories and the studies; to assess and identify the value of research claims; to identify gaps in literature and; to provide a rationale, background/context for proposed research and guide selection for an appropriate design and methodology. Based on the empirical studies reviewed, the current study to provide a critique to give a basis for knowledge gaps.

For instance, Kiplimo et al. (2017) assessed the effect of monthly default penalties on default on higher education loan recovery in Kenya. Engede (2015) looked into the strategies used by Higher Education Loans Board in loan recovery from beneficiaries in Kenya. Ng'ang'a (2016) looked at the factors affecting the repayment of education loans among university students in Kenya. To the best of our knowledge, the studies have not focused exhaustively on the variables...
of loan recovery (conceptual gap) and fail methodologically to capture up to 2022 data on loan recovery. Zamro (2016) looked into the antecedents of the educational loan repayment among the POLIMAS students in Malaysia but the findings are not generalizable to the case of Kenyan students. Therefore, the current study found it worthwhile to investigate the antecedents of loan recovery of higher education loans in Kenya using data from 2012 to 2021.

RESEARCH METHODOLOGY

Introduction

This section discusses the research techniques used to collect and analyze the research data. This includes the research design, strategy, population, sample, data collection tactics, data analysis, validity/reliability and the research ethics. Research Design

A research design is a technique that a certain study uses in conducting a statistical data collection, measuring, and analyzing the collected. That is a plan for a study, that provides the overall framework for collecting data (Yanow & Schwartz- Shea, 2015; Meyers et al., 2016; Saunders et al., 2019). The current study used a descriptive research design (Burlig et al., 2020; Cook & Ware, 1983) which was used to track loan recovery of higher education in Kenya for the last 10 years.

Target Population

The target population was the Higher education Loans Board which was studied for the last 10 years. The study targeted the quarterly data from the Higher education Loans Board for the last 10 years (from the year 2012 to 2022). Items to be collected included the following: quarterly data on loan repayment factors, economic factors, demographic factors and loan recovery of higher education loans.

Census Survey

Higher education Loans Board was the unit of analysis of the study; therefore, no sampling was done. Thus, a census survey was adopted to assess all the data under observation. Fowler (2013) stated that when the population is small, sampling is not possible and a census is advised to provide accurate and reliable findings. Census allows for 100% representation (Parker & Gallivan, 2011; Nirel & Glickman, 2009; Thrusfield & Brown, 2017).

Data Collection Instruments

The study used secondary data which was collected by the use of a secondary time series data template. The secondary data was extracted from the Higher education Loans Board quarterly data reports for 10 years. Secondary quarterly data on demographic factors, loan repayment factors, economic factors and loan recovery of higher education loans was collected by the use of a secondary data template (to collect data from 2012/13 to 2021/2022).

Data Collection Procedure

Before, data collection, the researcher sought for approval from the relevant institutions/stakeholders. That is the introduction letter, consent form, NACOSTI letter, permission from the graduate school. Items to be collected included: quarterly data on income level & educational level (demographic factors); quarterly data on economic growth, employment rate, & inflation rate (CPI) (economic factors); quarterly data on lending interest
rate (jielimishe) & interest penalty (loan repayment factors); and the quarterly data on (Amount of Unrecovered Loans – NPLs) see Appendix I.

**Data Processing and Analysis**

To make the quantitative data ready for coding, data editing was done by checking the completeness, consistency, and authenticity of the information provided. The data was also sorted and coded according to the variables and the objectives of the study in order to process it. Coding involved assignment of numerical scores to the already edited data to give meaning the coded data was analyzed using STATA v 14.0.

The quantitative secondary data was analyzed by use of descriptive and inferential statistics. The analysis was done with a time series approach. Descriptive statistics and inferential statistics (correlation and regression analysis) was used in the analysis of the data. Descriptive statistics were used to provide a summary of the quantitative data in form of the counts, percentages and means, among others. Correlation analysis was used to test the strength of the relationship between the variables. Regression analysis was carried out using multivariate linear regression models to determine the relationship between independent predictors and the dependent variable. That is the causal effect the independent variables have on the dependent variable. A 0.05 significance level (95% confidence interval) was the error variance used. Data was coded and analyzed using EViews v14.0. Results were then presented in tables, diagrams and charts.

To test for causal relationship between the dependent and independent variables, the following multiple regression model was used as presented below:

\[ Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \epsilon \]

Whereby:

- \( Y_t \) = Loan recovery of Higher education loans
- \( \beta_n \) = Change in Y with respect to a unit change in \( X_n \)
- \( X_{1t} \) = demographic factors
- \( X_{2t} \) = economic factors
- \( X_{3t} \) = loan repayment factors
- \( \epsilon_t \) = Error term
- \( t \) = time periods under study

**DATA ANALYSIS, FINDINGS AND DISCUSSION**

**Introduction**

This chapter presents the findings from the field and which are presented in tables and figures. The chapter entails the descriptive statistics, diagnostic testing, correlation analysis and the regression analysis.

**Summary of the descriptive statistics**

The summary of descriptive statistics provides a concise overview of the main characteristics and trends observed in a dataset. It presents key numerical measures that describe the central tendency, variability, and range of the variables under analysis. This summary serves as a
foundation for understanding the data and provides important insights into the distribution and behavior of the variables. By presenting measures such as mean, standard deviation, minimum, and maximum values, the summary of descriptive statistics helps to identify patterns, assess variability, and gain a general understanding of the data's characteristics. It acts as a preliminary exploration of the dataset, providing a snapshot of its key statistical properties before further analysis and interpretation. The findings are as presented in Table 4.1.

Table 4.1: Summary of the descriptive statistics of the variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Unrecovered Loans (in Billions)</td>
<td>37</td>
<td>6.91E+09</td>
<td>3.88E+09</td>
<td>2.48E+09</td>
<td>1.54E+10</td>
</tr>
<tr>
<td>Economic growth (GDP growth)</td>
<td>37</td>
<td>4.367912</td>
<td>1.240434</td>
<td>0.250156</td>
<td>7.517355</td>
</tr>
<tr>
<td>Educational Level</td>
<td>37</td>
<td>4.908072</td>
<td>0.117881</td>
<td>4.7173</td>
<td>5.10762</td>
</tr>
<tr>
<td>Income level</td>
<td>37</td>
<td>642687.9</td>
<td>132746.1</td>
<td>415148.8</td>
<td>827441.2</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>37</td>
<td>6.32459</td>
<td>1.027847</td>
<td>4.69</td>
<td>9.38</td>
</tr>
<tr>
<td>Interest Penalty</td>
<td>37</td>
<td>2.76E+08</td>
<td>1.55E+08</td>
<td>9.92E+07</td>
<td>6.17E+08</td>
</tr>
<tr>
<td>Lending Interest Rate (Jielimishe)</td>
<td>37</td>
<td>0.114324</td>
<td>0.008753</td>
<td>0.1</td>
<td>0.12</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>37</td>
<td>3.79527</td>
<td>1.154499</td>
<td>2.78</td>
<td>5.74</td>
</tr>
</tbody>
</table>

Table 4.1 presents the summary of the outcomes of the variables under investigation. The dependent variable was represented by the amount of unrecovered loans in billions of currency KES. The mean value indicates that, on average, there are approximately 6.91 billion KES of unrecovered loans. The standard deviation suggests that the values tend to vary by around 3.88 billion KES. The minimum and maximum values show the range of unrecovered loans observed in the data. Annual economic growth rate as a percentage presented a mean value indicating that, on average, the economy is growing at a rate of approximately 4.37% per year. The standard deviation suggests that the growth rates tend to vary by around 1.24%. The minimum and maximum values show the range of economic growth rates observed in the data.

Given the average educational level, the mean value indicates that, on average, the educational level is approximately 4.91. The standard deviation suggests that the educational levels tend to vary by around 0.12. The minimum and maximum values show the range of educational levels observed in the data. Average income level shows the mean value indicating that, on average, the income level is approximately 642,687.9 units. The standard deviation suggests that the income levels tend to vary by around 132,746.1 units. The minimum and maximum values show the range of income levels observed in the data.

Inflation Rate presents a mean value indicating that, on average, the inflation rate is approximately 6.32% per year. The standard deviation suggests that the inflation rates tend to vary by around 1.03%. The minimum and maximum values show the range of inflation rates observed in the data. The amount of interest penalty was represented in units of KES. The mean value indicates that, on average, the interest penalty is approximately 276 million KES. The standard deviation suggests that the interest penalties tend to vary by around 155 million KES. The minimum and maximum values show the range of interest penalties observed in the data.

Lending Interest Rate (Jielimishe)’s mean value indicates that, on average, the lending interest rate is approximately 11.43%. The standard deviation suggests that the lending interest rates tend to vary by around 0.88%. The minimum and maximum values show the range of lending interest rates observed in the data. Unemployment rate represents the unemployment rate as a percentage. The mean value indicates that, on average, the unemployment rate is approximately
3.80%. The standard deviation suggests that the unemployment rates tend to vary by around 1.15%. The minimum and maximum values show the range of unemployment rates observed in the data.

**Trend Analysis**

Trend analysis is a method used to examine and understand the patterns and tendencies present in time series data. Time series data refers to observations collected over regular intervals of time, such as daily, monthly, or yearly data points. The goal of trend analysis is to identify the underlying long-term movement or direction of the data over time. The following section presents the trend patterns of the study variables surveyed across the 10-year period on a quarterly basis.

**Trend Analysis for Income level**

![Figure 4.1: Trend Analysis for Income level](image)

Figure 4.1 indicates an increasing trend in the quarterly income level from the year 2012 to 2022 as evidenced by the positive beta coefficient of 48064.

**Trend Analysis for Educational Level**

![Figure 4.1: Trend Analysis for Educational Level](image)
Figure 4.2: Trend Analysis for Educational Level

Figure 4.2 indicates an increasing trend in the quarterly educational level from the year 2012 to 2022 as evidenced by the positive beta coefficient of 0.0179.

Trend Analysis for Economic growth (GDP growth)

Figure 4.3: Trend Analysis for Economic growth (GDP growth)

Figure 4.3 indicates a slight increasing trend in the quarterly economic growth (GDP growth) from the year 2012 to 2022 as evidenced by the positive beta coefficient of 0.0.0233.

Trend Analysis for Unemployment Rate

Figure 4.4: Trend Analysis for Unemployment Rate

Figure 4.4 indicates an increasing trend in the quarterly unemployment rate from the year 2012 to 2022 as evidenced by the positive beta coefficient of 0.3802.
Trend Analysis for Inflation Rate

Figure 4.5: Trend Analysis for Inflation Rate
Figure 4.5 indicates a decreasing trend in the quarterly inflation rate from the year 2012 to 2022 as evidenced by the negative beta coefficient of -0.2656.

Trend Analysis for Lending Interest Rate (Jielimishe)

Figure 4.6: Trend Analysis for Lending Interest Rate (Jielimishe)
Figure 4.6 indicates a decreasing trend in the quarterly lending interest rate (Jielimishe) from the year 2012 to 2022 as evidenced by the negative beta coefficient of -0.0025.
Trend Analysis for Interest Penalty

Figure 4.7: Trend Analysis for Interest Penalty

Figure 4.7 indicates an increasing trend in the quarterly interest penalty from the year 2012 to 2022 as evidenced by the positive beta coefficient of 50,000,000.00.

Trend Analysis for Amount of Unrecovered Loans (in Billions)

Figure 4.8: Trend Analysis for Amount of Unrecovered Loans (in Billions)

Figure 4.8 indicates an increasing trend in the quarterly amount of unrecovered loans (in Billions) from the year 2012 to 2022 as evidenced by the positive beta coefficient of 1.2107.

Correlation Analysis between Macro-economic Factors and Growth of Mortgage Financing in Kenya

The correlation results provided indicate the strength and direction of the relationships between the variables. The Pearson correlation coefficient was used to determine the association between the variables which is denoted by $r$ (Gogtay, & Thatte, 2017). The values range from -1 to 1, where -1 represents a strong negative correlation, 1 represents a strong positive correlation, and 0 represents no correlation (Table 4.3).
Table 4.7: Correlation Matrix for Linearity Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Amount of Unrecovered Loans (in Billions)</th>
<th>Interest Penalty</th>
<th>Inflation Rate</th>
<th>Income level</th>
<th>Unemployment Rate</th>
<th>Economic growth (GDP growth)</th>
<th>Educational Level</th>
<th>Lending Interest Rate (Jielimishe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Unrecovered Loans</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Loans (in Billions)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest Penalty</td>
<td>-0.8844*</td>
<td>1</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>-0.6383*</td>
<td>0.6133*</td>
<td>1</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Income level</td>
<td>0.9073*</td>
<td>0.9883*</td>
<td>0.6204*</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>0.9425*</td>
<td>0.8422*</td>
<td>0.6451*</td>
<td>0.8506*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Economic growth (GDP growth)</td>
<td>-0.6283*</td>
<td>0.3192</td>
<td>0.2657</td>
<td>-0.3800*</td>
<td>-0.5436*</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Educational Level</td>
<td>0.5694*</td>
<td>-</td>
<td>-</td>
<td>0.5743*</td>
<td>0.6617*</td>
<td>-0.4063*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lending Interest Rate (Jielimishe)</td>
<td>-0.9112*</td>
<td>0.6968*</td>
<td>0.5533*</td>
<td>-0.7127*</td>
<td>-0.9111*</td>
<td>-0.6096*</td>
<td>-0.4102*</td>
<td>1</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed)

Table 4.7 shows that there is a strong negative and significant correlation ($r = -0.8844*$) between interest penalty and the amount of unrecovered loans (NPLs). This suggests that as the amount of unrecovered loans increases, the interest penalty tends to decrease.

There is a moderate negative and significant correlation ($r = -0.6383*$) between inflation rate (CPI) and the amount of unrecovered loans (NPLs). This implies that as the inflation rate increases, the amount of unrecovered loans tends to decrease.

There is a strong positive and significant correlation ($r = 0.9073*$) between income level and the amount of unrecovered loans (NPLs). This indicates that as the income level increases, the amount of unrecovered loans tends to increase.

There is a strong positive and significant correlation ($r = 0.9425*$) between unemployment rate and the amount of unrecovered loans (NPLs). This suggests that as the unemployment rate increases, the amount of unrecovered loans tends to increase.

There is a moderate negative and significant correlation ($r = -0.6283*$) between economic growth (GDP growth) and the amount of unrecovered loans (NPLs). This implies that as the economic growth rate increases, the amount of unrecovered loans tends to decrease.

There is a weak positive and significant correlation ($r = 0.5694*$) between educational level (government expenditure on education) and the amount of unrecovered loans (NPLs). This indicates that as the educational level increases, the amount of unrecovered loans tends to increase.

There is a strong negative and significant correlation ($r = -0.9112*$) between lending interest rate (Jielimishe) and the amount of unrecovered loans (NPLs). This suggests that as the lending interest rate increases, the amount of unrecovered loans tends to decrease.
These correlation results provide insights into the relationships between the variables. For example, higher income levels and unemployment rates are associated with a higher amount of unrecovered loans. On the other hand, lower interest penalties and economic growth rates tend to be linked to a higher amount of unrecovered loans. These findings can guide further analysis and decision-making in understanding and managing the factors influencing the amount of unrecovered loans.

**Regression analysis between demographic, economic and loan repayment factors and loan recovery of higher education loans in Kenya**

This section presents the findings of the regression that sought to determine the extent and magnitude of the cause-effect of demographic, economic and loan repayment factors on loan recovery of higher education loans in Kenya. The results are presented in Table 4.8.

**Table 4.8: Relationship between demographic, economic and loan repayment factors and loan recovery of higher education loans in Kenya**

| Amount of Unrecovered Loans (in Billions) | Coef. | Std. Err. | t | P>|t| | [95% Conf. Interval] |
|------------------------------------------|-------|-----------|---|-----|-------------------|
| Interest Penalty (Loan repayment factor) | -0.016| 0.188     | -0.08 | 0.933 | -0.399 to 0.368   |
| Inflation Rate (Economic factor)         | -0.117| 0.109     | -1.08 | 0.288 | -0.34 to 0.005    |
| Income level (Demographic factor)        | 1.181 | 0.424     | 2.78  | 0.009 | 0.314 to 2.049    |
| Unemployment Rate (Economic factor)      | -0.012| 0.224     | -6.64 | 0.959 | -0.632 to 0.448   |
| Economic growth (Economic factor)        | -0.114| 0.025     | -4.51 | 0.000 | -0.166 to -0.063  |
| Educational Level (Demographic factor)   | 0.482 | 1.001     | 0.48  | 0.634 | -1.566 to 2.53    |
| Lending Interest Rate (Loan repayment factor) | -2.761| 0.591     | -4.67 | 0.000 | -3.969 to -1.552  |
| _cons                                   | 0.651 | 9.196     | 0.07  | 0.944 | -18.157 to 19.458 |

Number of obs = 37
F (7, 29) = 241.81
Prob > F = 0.000
R-squared = 0.9832
Adj R-squared = 0.9791

In table 4.8, the model R-squared was 0.9832, implying that the goodness of fit of the model explains 98.32% of the variation in loan recovery of Higher education loans in Kenya. This is further supported by a significant F statistic [F (4, 75) = 241.81] at 0.05 significance level where the Prob (F-statistic), Prob > F= 0.000. This implies the time series linear model is statistically significant.

Given the economic factors, the findings revealed that inflation rate has a negative relationship with the amount of unrecovered loans. The beta coefficient (-0.117) suggests that a one-unit increase in the inflation rate is associated with a decrease of 0.117 billion in the amount of unrecovered loans. However, similar to the interest penalty, the coefficient is not statistically significant (p > 0.05), indicating that the relationship between the inflation rate and the amount of unrecovered loans is not significant. Unemployment Rate had a beta coefficient of -0.012 suggesting that a one-unit increase in the unemployment rate is associated with a decrease of 0.012 billion in the amount of unrecovered loans. However, the coefficient is not statistically significant (p > 0.05), indicating that the relationship between the unemployment rate and the
amount of unrecovered loans is not significant. The beta coefficient (-0.114) of economic growth suggests that a one-unit increase in economic growth is associated with a decrease of 0.114 billion in the amount of unrecovered loans. This coefficient is statistically significant (p < 0.05), indicating a significant negative relationship between economic growth and the amount of unrecovered loans.

These findings are consistent with Koech (2021) who showed that inflation rate has statistically insignificant negative correlation associated with NPL. However, loan growth and GDP growth have a positive correlation with NPLs at HELB, however, the influence was not statistically significant. Rajabu (2020) however, showed that there is a positive relationship between willing to re-pay back loan and employment, income level, parent, awareness and penalty. The finding also discovers that income difference among beneficiaries and unemployment rate to beneficiaries affect repayment of higher education loans.

Given the demographic factors, income Level presented a beta coefficient of 1.181 suggesting that a one-unit increase in income level is associated with an increase of 1.181 billion in the amount of unrecovered loans. This coefficient is statistically significant (p < 0.05), indicating that there is a significant positive relationship between income level and the amount of unrecovered loans. Educational Level also has a positive relationship with the amount of unrecovered loans. The beta coefficient (0.482) suggests that a one-unit increase in educational level is associated with an increase of 0.482 billion in the amount of unrecovered loans. However, the coefficient is not statistically significant (p > 0.05), indicating that the relationship between educational level and the amount of unrecovered loans is not significant.

These findings are consistent with Kassegn and Endris (2022) who indicated that education level was found to determine loan repayment rate of borrowers positively and significantly, while age and family size were found to determine loan repayment rate negatively and significantly in the study area. Makimu (2017) showed that demographic variables such as age, gender, geographical settings, high school academic achievement, and socio-economic status were not statistically significant predictors of perceived likelihood of student loan repayment. Nonetheless, less than two third of participants indicated that they are willing to pay their loans after graduation.

Baidoo, Ofori-Abrebrese & Yusif (2020) also noted that financially literate individuals are more likely to demand loan whereas private sector employees are less likely to demand loan. However, Mitei (2017) indicated that social-demographic factors consisting of gender, education, gender and age of the members does not have a significant relationship with the loan repayment. Makimu (2017) also added that demographic characteristic such as age, gender, geographical settings, high school academic achievement, and socio-economic status are not predictors of perceived likelihood of student loan repayment.

Given the loan repayment factors, the findings revealed that lending interest rate has a negative relationship with the amount of unrecovered loans. The beta coefficient (-2.761) suggests that a one-unit increase in the lending interest rate is associated with a decrease of 2.761 billion in the amount of unrecovered loans. This coefficient is statistically significant (p < 0.05), indicating a significant negative relationship between the lending interest rate and the amount of unrecovered loans. Interest Penalty had a beta coefficient of -0.016 suggesting that a one-unit increase in the interest penalty is associated with a decrease of 0.016 billion in the amount of unrecovered loans. However, the coefficient is not statistically significant (p > 0.05),
meaning that we cannot conclude that there is a significant relationship between the interest penalty and the amount of unrecovered loans.

These findings do not agree with Kwang’a (2020) who determined that there is a significant relationship between loan sizes, loan tenure, and repayment performance of loans disbursed by the Higher Education Loans Board. Kiplimo et al. (2017)’s findings, however, indicated that there is a significant negative association between monthly default penalty and loan recovery. It also found that monthly default penalty on defaulters was a significant deterrent of HELB loan defaulters. Zhang et al. (2021) indicated that students without state-subsidized loans were found to have stronger campus loan consumption intention and higher loan amounts, and recreational consumption was the main loan purpose. The factors affecting campus loan consumption included students’ family structure, parents’ education level, peer students’ consumption status, grade level, relationship status, and ability to assess loan risk.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This section presents the summary, conclusions, and recommendations that help in summarizing the key points of the findings and implications of the research. The summary section provides a concise overview of the entire research study. It highlights the main objectives, methodology, key findings, and significant contributions of the research. The conclusions section presents the key findings and inferences drawn from the analysis of the research data. That is a comprehensive interpretation of the results, discussing the extent to which the research objectives were achieved and addressing any research questions or hypotheses. The recommendations section offers practical suggestions and guidance based on the conclusions drawn from the research. It identifies potential areas for improvement or further exploration, highlighting specific actions that can be taken based on the research findings.

Summary of Findings

The study key findings were presented according to the study variables.

The Effect of demographic factors on loan recovery of Higher education loans in Kenya

Given the economic factors, the findings revealed that inflation rate has a negative relationship with the amount of unrecovered loans. This suggests that a unit increase in the inflation rate is associated with a decrease in the amount of unrecovered loans. However, similar to the interest penalty, the coefficient is not statistically significant, indicating that the relationship between the inflation rate and the amount of unrecovered loans is not significant. Unemployment rate indicated a negative relationship with the amount of unrecovered loans suggesting that a unit increase in the unemployment rate is associated with a decrease in the amount of unrecovered loans. However, the coefficient is not statistically significant, indicating that the relationship between the unemployment rate and the amount of unrecovered loans is not significant. The negative beta coefficient of economic growth suggests that a unit increase in economic growth is associated with a decrease in the amount of unrecovered loans. This coefficient is statistically significant, indicating a significant negative relationship between economic growth and the amount of unrecovered loans.
The Effect of economic factors on loan recovery of Higher education loans in Kenya

Given the demographic factors, the findings on income level suggests that a unit increase in income level is associated with an increase in the amount of unrecovered loans. This coefficient is statistically significant, indicating that there is a significant positive relationship between income level and the amount of unrecovered loans. Educational Level also has a positive relationship with the amount of unrecovered loans suggesting that a unit increase in educational level is associated with an increase in the amount of unrecovered loans. However, the coefficient is not statistically significant, indicating that the relationship between educational level and the amount of unrecovered loans is not significant.

The Effect of loan repayment factors on loan recovery of Higher education loans in Kenya

Given the loan repayment factors, the findings revealed that lending interest rate has a negative relationship with the amount of unrecovered loans. The finding suggests that a unit increase in the lending interest rate is associated with a decrease in the amount of unrecovered loans. This coefficient is statistically significant, indicating a significant negative relationship between the lending interest rate and the amount of unrecovered loans. The finding on interest penalty suggests that a unit increase in the interest penalty is associated with a decrease in the amount of unrecovered loans. However, the coefficient is not statistically significant, meaning that we cannot conclude that there is a significant relationship between the interest penalty and the amount of unrecovered loans.

Conclusion of the study

Given the economic factors, the findings revealed that inflation rate has a negative and statistically insignificant relationship with loan recovery of higher education loans in Kenya. Unemployment rate also had a negative and statistically insignificant relationship with loan recovery of higher education loans in Kenya. Economic growth also had a negative and statistically insignificant relationship with loan recovery of higher education loans in Kenya. The study concludes that the effect of economic factors on loan recovery of higher education loans in Kenya is negative.

Given the demographic factors, the findings revealed that income level has a positive and statistically significant relationship with loan recovery of higher education loans in Kenya. Educational Level also has a positive but insignificant relationship with the loan recovery of higher education loans in Kenya. The study concludes that the effect of demographic factors on loan recovery of higher education loans in Kenya is positive.

Given the loan repayment factors, the findings revealed that lending interest rate has a negative and statistically significant relationship with the amount of unrecovered loans. Interest penalty had a negative and statistically insignificant relationship with loan recovery of higher education loans in Kenya. The study concludes that the effect of loan repayment factors on loan recovery of higher education loans in Kenya is negative.

In summary, the study concludes that there is a negative effect of loan repayment factors and economic factors affecting loan recovery of Higher education loans in Kenya. However, there is a positive effect of demographic factors affecting loan recovery of Higher education loans in Kenya.
Recommendations of the study

Based on the findings that loan repayment factors and economic factors have a negative effect on the loan recovery of higher education loans in Kenya, here are some policy, practical, and theoretical recommendations:

The study recommends HELB to implement stricter policies and regulations to ensure timely and effective loan repayments. This could include penalties for late payments, stricter enforcement mechanisms, and improved tracking systems to monitor repayment progress. The study recommends HELB alongside the Ministry of Finance and Ministry of Education to develop and promote financial literacy programs that target borrowers to improve their understanding of loan repayment obligations, interest rates, and financial management. This can help borrowers make informed decisions and increase their likelihood of timely loan repayments.

The study recommends HELB alongside the Ministry of Finance and Ministry of Education to establish partnerships with employers to facilitate loan repayments through direct deductions from salaries. This can ensure a more reliable and consistent repayment process, as well as reduce the burden on individual borrowers to make manual repayments. The study recommends the strengthening of Financial Aid Programs which can include increasing the availability of grants and scholarships specifically tailored to support students with lower income levels or from marginalized communities.

There is need to implement policies and initiatives that promote equal access to quality education for all demographic groups. This can involve addressing barriers such as geographic location, gender inequality, and socioeconomic disparities to ensure that students from diverse backgrounds have the opportunity to pursue higher education. HELB is recommended to develop policies that provide favorable loan repayment terms and conditions for borrowers from disadvantaged demographic groups. This may include income-based repayment plans, loan forgiveness programs, or flexible repayment options that consider the financial circumstances of borrowers.

Likewise, there is need for HELB to offer comprehensive financial counseling and education programs to borrowers, focusing on budgeting, financial management, and responsible loan repayment practices. This can empower borrowers from diverse demographic backgrounds with the necessary knowledge and skills to effectively manage their loans and make timely repayments. The study also recommends to improve outreach efforts to reach borrowers from various demographic groups, particularly those who may face language barriers, limited access to information, or cultural differences. Utilize targeted communication strategies and multilingual resources to ensure effective and inclusive communication about loan repayment options and responsibilities.

Recommendations for Further Research Areas

The focus of the current study was to investigate the antecedents of loan recovery of higher education loans in Kenya. The study specifically focused on demographic factors, economic factors and loan repayment factors and their effect on loan recovery of Higher education loans in Kenya. However, further studies could be carried out with the inclusion of more study predictors to improve the findings. There is need for further research to explore the underlying factors contributing to the negative effect of loan repayment and economic factors on loan recovery. This can help gain a deeper understanding of the mechanisms at play and identify
additional interventions or strategies to improve loan recovery rates. Further studies could also improve the significance of the results by increasing the unit of observation. The findings would offer a comparative point of view to the current study and provide a more robust approach to the findings.

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