

## **ECONOMIC DYNAMICS AND STUDENTS' LOANS RECOVERY IN KENYA**

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### **Abstract**

*This paper focuses on the economic dynamics and students' loans recovery at the Higher Education Loans Board (HELB) in Kenya. A major problem of education revolving funds and students' loan schemes worldwide is the low rates of loans recovery that has made it difficult for the funds to achieve self-sustainability amidst rising demand for students' loans. In Kenya, 40% of students' loans are in default. The study sought to find out the relationship between economic dynamics (viz. employment and Inflation levels) and students' loan recovery at HELB. Descriptive research design was used. Secondary data on inflation and employment trends was obtained from the Kenya National Bureau of Statistics from back in 1974 to the year 2016 while the data of annual rates of loans recovery and the loans portfolio at risk (PAR) was obtained from the Higher Education Loans Board. Time series regression analysis using STATA 14 was used to establish the effect of employment and inflation on student loan recovery. Key diagnostic tests of unit root to establish non stationarity. The study found that the variables could explain up to 81.03% of students' loan recovery ( $R^2$  .8103). The unstandardized beta coefficient indicates that inflation contributes negatively and significantly to students loan recovery ( $\beta = -0.1142$ ;  $p < 0.05$ ) at 95% confidence level. Further, the regression results indicated*

*that employment was found to be positively but not statistically significant ( $\beta = 0.0027$ ;  $P > 0.05$ ) in its influence on students' loans recovery at the Higher Education Loans Board of Kenya.*

*Keywords: Loans Recovery, Employment, Inflation, Defaulters, Portfolio at Risk*

## INTRODUCTION

In response to the rising demand for higher education around the world, most governments have formed student loan schemes to facilitate financing of scholars. According to Shen and Ziderman (2008), government-sponsored student loans schemes are in place in some 70 countries and regions round the world. Student loans schemes, usually concerned with tertiary education, are of particular interest to governments because these schemes are able to contribute to the solution of a range of pressing policy problems that governments face. Use of students' loan schemes as an alternative means of funding higher education has become popular in African countries including Kenya, Ghana, Tanzania, Namibia, South Africa, Nigeria and recently, Rwanda and Uganda (Onen, Ajuaba, Oceng, & Ndaruhutse, 2015).

However, in the recent past, there is a notable increase in the level of default on the students' loans. According to Darolia (2013), this rise in students' loan default has led to a concern about the public financial risks associated with nonperforming debts and the financial challenges that many students face. Students' loans help in reducing the economic burden of students as well as the governments. Nevertheless, the default in these loans has become an important phenomenon in recent years.

In Kenya, the Higher Education Loans Board (HELB) is the state corporation mandated to disburse loans to students and to recover the same upon maturity so as to create a revolving fund from which funds can be drawn to finance higher education for needy students. However, according to Johnstone (2015), there are low rates of loan recovery and the proportion of the debt's portfolio which is at risk is high. This is causing a serious threat to sustainability the revolving fund because the amounts recovered from past students, and expected to be disbursed to subsequent students is not enough to cover the demand for education funds. According to Nawai (2010) the low rates of students' loans recovery may be attributed to a number of factors among them being the financing institutions' specific factors which are within the control of the lending organization while others are external factors.

Economic dynamics refers to the variables that control the economy, are not within the rheostat of an organization and therefore referred to as external factors. Institutions operate

under the influence of these external factors such as economic factors which are beyond their control. This implies that in absence of quality governance and strategic plans aimed at mitigating adverse effects of macro-economic factors on credit risk may contribute to high levels of loans delinquency. One of these economic variables is unemployment of graduates which is a pivotal factor in the high rate of loan defaults. According to Kenayathulla and Tengyue (2016), unemployment reduces the amount of income and the reason why there are more students who prefer to default the loan repayment is that their personal income is inadequate to assign to the repayment.

Among other economic variables is inflation which is a percentage increase of a reference index, the Consumer Price Index (CPI). CPI is a representative of a common basket of goods and services (Mercurio, 2004). When the general price levels across the board increases, the ability of borrowers to payback loan would decrease. For instance, Pakistan is a country that suffers from both high inflation rates and high amounts of NPLs (Wafa and Malik, 2015).

### **Problem Statement**

HELB has previously used various measures to recover long outstanding students' debt. However, despite the various measures taken to increase loans recovery, there has been a strange lack of enthusiasm by ex-university students to repay their loans. The revolving fund is still not self-sustainable 21 years after the enactment of HELB Act that aimed to a creation of a self-sustainable, revolving students' fund. The total annual amounts recovered from past loans can only cover 41% of the board's budget leaving the larger part of financing to the government through annual allocations hence overreliance on the exchequer.

According to HELB (2015), the level of non-performing loans is at 38%. The high nonperforming rate of past students' loan is a major threat to the sustainability of the education revolving fund. Are there external factors that are playing a significant role in students' loan recovery? This has raised many unanswered questions hence the purpose of this study.

### **Purpose of the study**

The general objective of this study was to ascertain the relationship between Economic Dynamics and Students' Loans Recovery at the Higher Education Loans Board in Kenya. The specific objectives were:

- 1) To establish the relationship between Employment and students' loans recovery and
- 2) To ascertain the relationship between Inflation and students' loans recovery

## LITERATURE REVIEW

The theories of financial intermediation, Principal Agent theory and the Recourse based view were considered appropriate in this study as they touch on an agent (HELB), who is given various resources to offer financial services to needy students on behalf of the government of Kenya.

A financial intermediary is an entity that acts as the middleman between two parties in a financial transaction. Some of the common examples of financial intermediaries include commercial banks, investment banks, insurance companies, pension funds and mutual funds (Seed, 2005). Financial intermediaries come in different ways between two parties and help to facilitate trading. They have the role to create assets for creditors and liabilities for debtors which are much more attractive for each of them than if the transfer of funds from creditor to debtor were to be made directly between the two parties (Diamond, 1984).

Principal-Agent Theory was developed by Jorgé and Lic (2000). It was developed on relationships between agents on one party and their principals on the other end. The principals delegate some actions of control to the agent in which case the agents are expected to adhere to the directives of their principals. Agency theory was introduced basically as a separation of ownership and control and thus to give a clear distinction between the two (Bhimani, 2008).

The fundamental premise of the Resource based theory is that companies gain a sustained competitive advantage through the usage of resources and capabilities that are valuable, rare, imperfectly imitable, and not substitutable to create value (Barney, 1995). The theory postulates that the competitive advantage of any organization depends on how it uses the resources at its own disposal (Wernerfelt, 1984).

As uncertainty and unemployment increases, the likelihood of student loan repayment reduces while the increase in employment levels of the graduates has an implication of reducing the student loan default (Choy and Li, 2006). Oosterbeek and Broek (2009) did an empirical analysis on borrowing behavior of higher education students in Netherlands. The study pointed out that the repayment rates among the graduates is still low due to the decrease in the job market. In worse situations this has led to default rates increasing at an alarming rate due to the increase in income uncertainty owing to fluctuation in the job market (Walker 2002). Baum and O'Malley (2003) indicated that despite the education debt being manageable, there are indications that the graduates have a negative attitude towards loan repayment when they find that they are required to allocate huge amounts from their monthly salaries to repay their university loans.

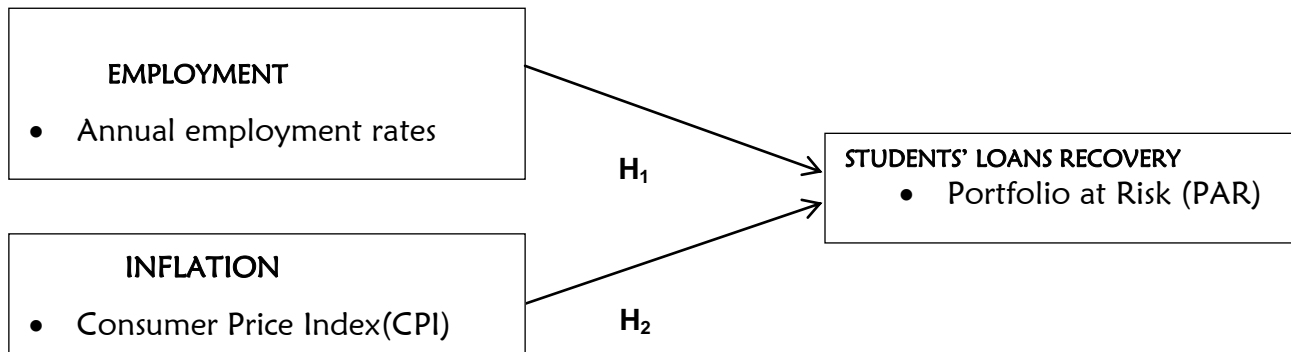
Lochner and Naranjo (2004) carried out a study on education and default incentives with government student loan programs in United States of America. The study was found that the

positive effect of employment on loan repayment was most outstanding in formal employment through the implementation of DAS scheme (deduct at source). The method ensures loan repayment in an efficient, economical and timely manner. It is also very reliable to both the collection agency and the loan borrower.

In the study on the effects of macroeconomic variables on credit risk in the Kenyan banking system, Gitonga (2014) found that inflation was not related to credit risk in the short run but related in the long run. The findings concur with Mileris (2012) who indicated that inflation had negative impact on loan defaults in the short run. This further concurs with Wafa and Malik (2015) who indicated that inflation has an impact on loan defaults in Pakistan. However, the direction of relation in the short run was different from that in the long run.

Several studies have found inflation rate as a significant variable that explains the credit risk. Further, Ochomba (2014) found that an increase in the rate of inflation had a profound positive relationship to non-performing loans. Imbuga B. (2014) recommended to commercial banks managers to employ more flexible approach in dealing with the macro-economic factors such as with inflation, an increase in the loan loss provision is recommended when there exists high inflation and a decrease in loan loss provision during periods of low inflation rate.

Figure 1 Conceptual framework



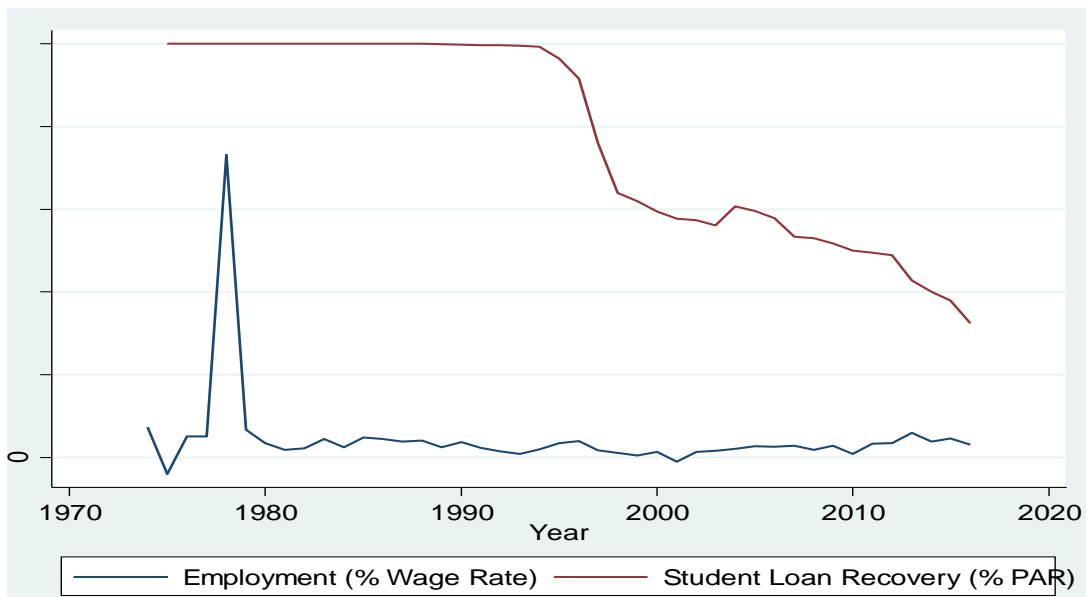
## METHODOLOGY

To ascertain the relationship between economic dynamics and students' loan recovery at HELB, descriptive research design was used. Secondary data on inflation and employment trends was obtained from the Kenya National Bureau of Statistics from 1974 to 2016 while data on annual loans recovery rates and the loans portfolio at risk (PAR) was obtained from HELB. Data was analyzed using STATA (Version 14) computer software. Regression analysis using STATA software was used to establish a cause and effect relationship among study variables. Key diagnostic tests of unit root to establish non stationarity were done.

## RESULTS AND DISCUSSION

To show the movement of students' loan recovery with that of employment, a graph of the two variables was drawn as shown in figure 1. Students' Loan recovery was measured using the levels of portfolio at risk (PAR) while the employment was represented by the annual percentage changes in the wage rate.

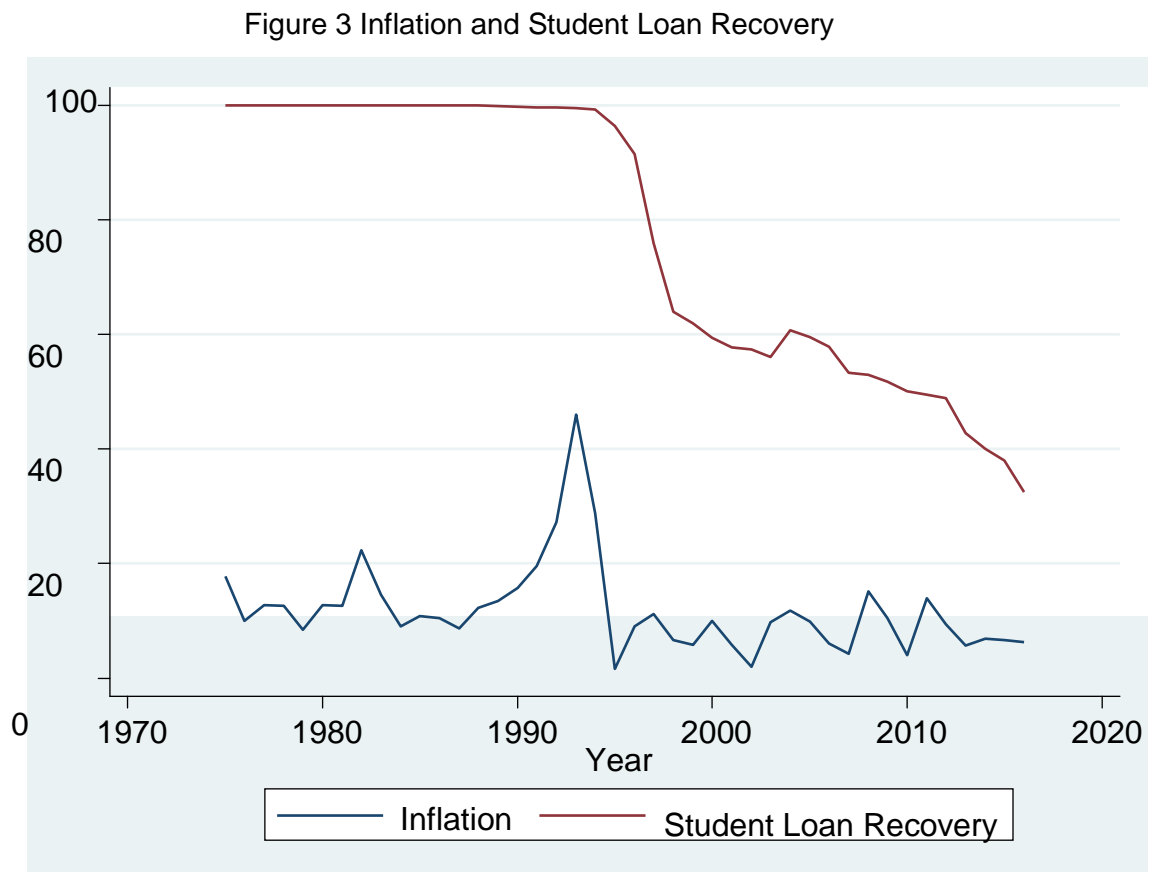
Figure 2 Employment and Portfolio at Risk



Employment is seen to fluctuating during the period under study while student loan recovery kept increasing as exhibited by a decline in PAR. However, it can be noted that employment growth rate exhibited a rising trend between 1974 until it reached a peak of 60.8% in 1978. Many people were employed in the public service to provide work to replace the departed colonial masters the same period, the PAR remained at a high constant of 100% between the years 1974 to 1989 then at 99% during the period 1990 to 1994. Thereafter the PAR exhibited a declining trend from a high 96% to a low 32% during the period 1995 to 2016.

High constant rates of PAR of 100% were recorded between 1974 and 1989 implying that there were no loans repaid or minimal repayments were done during the period hence 0% (zero percent) rates of loans recovery. During this period, the government of Kenya concentrated on expanding the university education as a deliberate initiative to provide the necessary human resource for both public and private sectors. According to Chacha (2004), little attention was given to loans recovery. All the money disbursed by the then ministry of education together with its interest was held by the student borrowers during the period since there were no recoveries during the period.

A graphical presentation to show the movement of students' loan recovery with inflation was drawn as shown in figure 3.



The highest inflation levels were witnessed between 1992 and 1994. In 1992 the inflation rates got to 27.3%, and then 46% in 1993 and 28.8% in 1994 after which the rate exhibited downward trend to 14% in the year 2011. The rate of inflation has been reducing from 2011 (14%) to 2016 (6.3%) a period during which the PAR has been declining. This means that the rate of loans recovery was increasing as the rate of inflation was decreasing. The PAR exhibited a declining trend from 49% in 2011 to 32% in 2016.

The results indicate that fluctuation in the annual inflation rate is corresponding with a similar fluctuation in the PAR. The effect of inflation on general loans recovery has been conflicting with various scholars getting negating and supporting effects of inflation. Warue (2013) found no evidence of existence of a relationship between inflation and nonperforming loans portfolio performance in small and medium banks in Kenya. Whereas Wafa and Malik (2015) indicated that a general increase in price levels across the board leads to a reduced ability of debtors to repay back their loans

Correlation analysis was done to test the existence of interdependency between independent variables and relation of independent variables to the dependent variable. The results are as presented below:

Table 1 Correlation Analysis

		Loans Recovery	Employment	Inflation
Loan Recovery	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	42		
Employment	Pearson Correlation	.099	1	
	Sig. (2-tailed)	.152	.350	
	N	42	42	
Inflation	Pearson Correlation	-.861**	-.539**	1
	Sig. (2-tailed)	.000	.003	
	N	42	42	42

\*\*Correlation is significant at .01 level (2-tailed). \*Correlation is significant at .05 level (2-tailed).

N= 42 (1974 to 2016)

From the correlation analysis results, there exists a correlation between student loan recovery and economic dynamics. A weak negative, but insignificant relationship exists between PAR and employment ( $n=42$ ,  $r = -0.099$ ,  $p > 0.01$ ). Inflation is reported to have the strongest but negative association with student loan recovery thus the major contributor to student loan recovery ( $n=42$ ,  $r = 0.861$ ,  $p < 0.01$ ).

Time series regression analysis using STATA software was also used to establish the effect of employment and inflation on student loan recovery. The model was specified and tested as follows:

SLR = f (Economic Dynamics)

SLR = f (EMP, INF,  $\mu_t$ ); EMP =  $X_{3t}$ , INF =  $X_{4t}$

SLR =  $Y_t = Y_{t-1} + X_{3t} + X_{4t} + \mu_t$

The study applied robust regression to obtain efficient estimates based which is necessary especially when using independent variables which in this case were two. Robust regressions also helped in addressing presence of heteroscedasticity and serial correlation.



Table 2 Correlation

First Difference of PAR	Coefficient	Robust Std. Err.	T	P>t	[95% Confidence Interval]	
First Difference of Employment	0.0027	0.0046	0.59	0.556	-0.0066	0.0121
Inflation	-0.1142	-0.0428	-2.67	-0.011	-0.0276	-0.2009
Constant	-3.1244	0.9907	-3.15	0.003	-5.1300	-1.1188

Linear Regression (Robust)  
Number of Observations = 41  
F (2, 38) = 3.57  
Prob> F = 0.0378  
R-squared = 0.0727  
R-squared (without robust) = 0.8103  
Root MSE = 3.3288

The regression results show that all explanatory variables were significant in explaining student loan recovery since p- value (0.0378) was below 5% significance level. Similarly, about 7.27% of the proportions explaining the dependent variable are as a result of independent variables while the rest are attributed to the error term or unobserved factors. The R squared is low as a result of application of robust. Without robust, the variables significantly explained the student loan recovery by 81.03%. The results further showed that students' loans recovery is significantly influenced only by inflation at 5% while employment was not statistically significant at all levels. From the results of the explanatory variables, the following predictive model was developed:

SLR = f (Economic Dynamics)

SLR = f (EMP, INF,  $\mu_t$ ); EMP =  $X_{3t}$ , INF =  $X_{4t}$

SLR =  $Y_t = Y_{t-1} + X_{3t} + X_{4t} + \mu_t$

SLR =  $-3.1244 - 0.1142X_4$

### Hypotheses testing

**Hypothesis 1:** There is no Statistically Significant Relationship between Employment and Students' Loan Recovery at HELB

Stepwise regression analysis was done to establish the effect of employment on student loan recovery at HELB. A positive effect of employment on student loan recovery ( $R^2 = 0.0727$ ,  $P > 0.05$ ) was reported. This therefore implies that only 7% of student loan recovery performance could be explained by employment. The un-standardized beta coefficient indicates

that employment does not significantly contribute to students' loan recovery ( $\beta = 0.0027$ ;  $p > 0.05$ ). The findings further indicate that a unit increase in employment would lead to a 0.0027 increase in student loan recovery and that this change is not statistically significant at  $p > 0.05$ . The F-ratio of 3.57 and  $p > 0.05$  implies that employment does not produce a statistically significant effect on student loan recovery at 95% confidence interval.

Table 3 Test of Hypothesis one

Employment does not have a statistically significant effect on Student Loan Recovery

Type of Analysis	Value
<b>ANOVA</b>	
F-Ratio	3.57
Sig. ( $p$ )	0.8103
R Square ( $R^2$ )	0.0727
Unstandardized Beta Coefficient	0.0027
Sig. ( $p$ )	0.556

The results presented therefore shows that employment does not produce a significant effect on student loan recovery hence we fail to reject the null hypothesis as stated.

Although it is not statistically significant at 5 % significance levels, Employment positively influenced loans recovery. This concurs with the findings of Oosterbeek and Broek (2009) that indicated that the students' education fund of Netherlands received low repayment rates due to decreasing job market as a result of the economic recession. In worse situations this has led to default rates increasing at an alarming rate due to the increase in income uncertainty owing to fluctuation in the job market.

The results support the findings of Ismael (2011), non-performing loans and defaults in student's loans can easily be associated with uncertainty of incomes due to unemployment. While Kenayathulla and Tengyue (2016) found that employment creates a consistent income flow from which a portion may be allocated to loan repayments.

**Hypothesis 2:** There is no statistically significant relationship between Inflation and Students' Loan Recovery

Stepwise regression analysis was done to establish the effect of inflation on student loan recovery at HELB. The results presented in table 4 shows that 81.3% of student loan recovery could be explained by inflation. The un-standardized beta coefficient indicates that inflation contributes negatively to student loan recovery ( $\beta = -0.1142$ ;  $p < 0.05$ ). Further, the findings

revealed that a unit increase in inflation would lead to a 0.1142 decline in student loan recovery and that this change is statistically significant at  $p < 0.05$ . The F-ratio of 3.57 implies that inflation produces a statistically significant effect on student loan recovery at 95% confidence interval.

Table 4 Test of Hypothesis two

Inflation does not have a statistically significant effect on Student Loan Recovery

Type of Analysis	Value
<b>ANOVA</b>	
F-Ratio	3.57
Sig. ( $p$ )	0.0727
R Square ( $R^2$ )	0.8103
Unstandardized Beta Coefficient	-0.1142
Sig. ( $p$ )	0.011

The results presented in table 4 show that inflation produces a statistically significant effect on student loan recovery by Higher Education Loans Board. We therefore reject the null hypothesis as stated.

Inflation significantly influenced loans recovery at 5% confidence levels. The findings concur with Wafa and Malik (2015) who indicated that a general increase in price levels across the board leads to a reduced ability of debtors to repay back their loans and defaults on loans repayment may sets in. Wafa et al., (2015) indicated Pakistan as a country that suffers both high rates if inflation and corresponding high levels of loan default. General increase in price of goods and services causes harm to savings. As the price increases, there is depreciation in the purchasing power of savings and other assets whose real value decreases as a result of inflation.

The findings also concur with Johnstone (2015), who indicated that the major challenges in revolving students' fund was low rates of loans recovery as a result of unemployment, decapitalization of funds because of high rates of inflation, interest rates and uncertainties of the excessive burden of debt.

However, the results negates the findings of Imbuga (2014) who found that inflation had a positive effect on loans recovery in the commercial banks in the country and this was related to credit risk. This indicated that an increase in inflation rates led to increased loans recovery which negates the results of this study. A study by Warue (2013) found no evidence of existence of a relationship between inflation and nonperforming loans portfolio performance in small and medium banks.

Table 5 Summary of Results

Objectives	Hypotheses	R	p-value	Interpretation
To establish the relationship between Employment and students' loans recovery	H <sub>1</sub> : There is no Statistically Significant Relationship between Employment and Students' Loan Recovery at the HELB	.099	.152	Fail to reject the hypothesis
To find out the relationship between Inflation and students' loans recovery	H <sub>2</sub> : There is no Statistically Significant Relationship between Inflation and Students' Loan Recovery at the HELB	-.861	.0000	Reject the hypothesis

Results presented in Table 5 indicate that inflation has a negative and statistically significant influence on student loan recovery at HELB. However, the findings indicated that employment has a positive but insignificant influence on student loan recovery

## CONCLUSION AND RECOMMENDATIONS

Economic dynamics have influence on Students' Loans Recovery at the Higher Education loans board. Employment has a positive effect loans recovery although the influence is not statistically significant. However, inflation has a strong but negative effect on students' loans recovery. This implies that an increase in inflation rates leads to a decline in student loan recovery. By the use of time series data, the study has provided a predictive model for loans recovery based on employment and inflation rates.

Since these factors were able to explain a proportion of loans recovery, The Higher Education Loans Board should concentrate on other factors that are within the control of the organization to develop approaches that can better respond to the adverse effects of these macro-economic factors.

Commercial loans borrowed at lower interest rates are performing better those students' loans in the same economy. Other than economic dynamics, there could other factors related to the borrower. A further study is therefore recommended on borrower characteristics and students' loans recovery.

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