The Impact of Non-performing Loans on Performance of Selected Private Commercial Banks in Ethiopia

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Abstract
The objective of this study is to examine the impact of Non-performing Loans on bank's performance in case of some selected private commercial banks in Ethiopia. To achieve this objective, the study has used explanatory research design. The selected banks are Awash Bank, Dashen Bank, Lion International Bank, Nib International Bank, United Bank, Wegagen Bank and Zemen Bank. Major sources of data are annual reports of respective banks. The data was analyzed by using of study STATA 13 software. The panel data which include Time series and cross sectional data are set covering for 10 years (2010/11 to 2019/20) to examine the relationship between nonperforming loans and other key internal and external variables along with the impacts on bank performance. The results of the study show that Non-perform loan Rate, Size of Loan and Advance and Loan Interest Ratio are statistically negative significant with Return On Asset(ROA) and Gross Domestic Product while Inflation Rate has statistically positive relation with ROA.

Key Word: - Return on Asset, Gross Domestic Product, Inflation Rate, Non-Performing Loan Rate, Size of Loan and Advance and Loan Interest Ratio

1. INTRODUCTION
1.1 Background of the study
Credit risks are losses from the refusal or inability of credit customers to pay what is owed in full and on time (Coyle, 2000). It is by far the most significant risk faced by banks and the success of their business depends on accurate measurement and efficient management of this risk to a greater extent than any other risks Gadise Gezu (2014). The lending function is considered by the banking industry as one of the most important functions for the utilization of funds. Since, banks earn their highest gross profits from loans; the administration of loan portfolios seriously affects the profitability of banks. In the process of providing credit assistance to the investment activities and projects in the economy, financial institutions face inherent risks in the form of default risk which results in build-up of Non-Performing Loans (NPLs) that have a negative effect on the profitability of the financial institutions. There is no standard form to define non-performing loans globally.
Under the Ethiopian banking business directive, non-performing loans are defined as "Loans or Advances whose credit quality has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advances in question" National Bank of Ethiopia (NBE, 2008). Credit risk is an internal determinant of bank performance. The higher the exposure of a bank to credit risk, the higher the tendency of the bank to experience financial crisis and vice-versa. According to Ahmad and Ariff (2013), most banks in Nigeria and other economies such as Thailand, Indonesia, Malaysia, Japan and Mexico experienced high Non-Performing Loans

(NPLs) and significant increase in credit risk during financial and banking crises, which resulted in the closing down of several banks in Indonesia and Thailand. The negative effect of credit risk and non-performing loans on banks performance and the economy in general has made the issue of NPLs a global one and of great importance in the last decades. According to Hou and Dickinson (2007), many researches on the causes of bank failures found that asset quality is a statistically significant predictor of insolvency, and that failing bank institutions always have high level of Non-performing loans prior to failure. Therefore, in managing the lending portfolio to attain the desired results, the bank should give adequate attention to the above factors.

Nevertheless, Ethiopian Private Commercial Banks (EPCBs) also suffered from serious
Financial fragility manifested by high proportion of NPLs (Mehari, 2012). Recently, the NPLs of EPCBs have shown a substantial improvement and lowered to an average of 5 % (National Bank of Ethiopia 2011). However, NPLs of EPCBs are still high as compared to the banks in developing economies like Namibia, Mozambique and Uganda (Fofack, 2013). Hence, EPCBs are still expected to reduce their NPLs as low as possible in order to achieve their optimal profit and ultimately improve the health of the financial system.
The main aim of this study is to examine the impact of Non-performing Loans on Bank Performance in case of some selected Private Commercial Banks in Ethiopia.

1.2 Statement of the Problem
Non-Performing Loan affects banks' profitability adversely because of the provision of classified loans and consequent write-off as bad debts, reduces return on investment (ROI), and disturbs the capital adequacy ratio (CAR). It also increases the cost of capital, widens assets and liability imbalance and upsets the economic value additions (EVA) by banks. EVA is equal to the net operating profit minus cost of capital. Banks may face liquidity problem due to high rate of NPL amount. One of the main activities of banks in Ethiopia and other parts of the world is Lending. This is evidenced by the volume of loans that constitute banks assets and the annually substantial increase in the amount of credit granted to borrowers in the private and public sectors of the economy. Loan portfolio is typically the largest asset and the predominant source of income for banks. In spite of the huge income generated from their loan portfolio, available literature shows that huge portions of banks loans usually become non-performing and therefore affect the financial performance of these institutions. A report on the performance of banks in 2008 indicated that among other factors, higher loan loss provision accounted for a decline in the bank profitability in Ethiopia (NBE annual report, 2008). Based on NBE'S classification of advances of the Banking industry, Banks mainly make money from the interest they charge on loans, and when they are unable to collect the owed interest payments from NPLs, it means that they will have less money available to create new loans and pay operating costs. In last ten years Awash Bank, Dashen Bank ,Lion International Bank, Nib International Bank, United Bank,Wegagon Bank and Zemen Bank average NPL as a percentage of loans have been 3.06%, 2.77%, 2.78%, 2.99%, 3.22%, 3.83% and 3.69 % respectively. The NPL result implies varies from bank to bank. As far as the scholar's knowledge goes, there was no study on relationship between non-performing loans and internal and external factors in respect of private commercial banks in Ethiopia. Therefore, the researchers are interested to conduct a study on impact of Non-performing Loans on bank Performance in case of some selected private commercial bank in Ethiopia.

1.3 Objective of the Study
1.3.1 General Objective of the study
The general objective of the study is to examine the impact of Non-Performing Loan on the Performance of selected private Commercial Banks in Ethiopia.

1.3.2 Specific Objectives
❖ To examine the impact of Non-Preforming Loan Rate on return on assets.
❖ To determine the relationship between GDP and bank performance.
❖ To investigate the relationship between inflation rate and ROA.
❖ To determine the relationship between landing interest rate and bank performance.
❖ To determine the relationship of size of loan and advance and bank performance

1.4 Hypotheses
Based on research objectives, the researchers developed the following   research hypothesis
H1$_0$: Non-performing loan rate has positive impact on bank performance
H1a: Non-performing loan rate has negative impact on bank performance
H2$_0$: Size of loan and advance has positive impact on bank performance
H2a: Size of loan and advance has negative impact on bank performance
H3$_0$: GDP has positive impact on bank performance.
H3a: GDP has no positive impact on bank performance
H4$_0$: Lending interest rate has positive effect on bank performance.
H4a: Lending interest rate has no positive effect on bank performance.
H5$_0$: Inflation rate has positive impact on bank performance.
H5a: Inflation rate has no impact on bank performance

1.5 Significance of the study
This study will provides recommendations for private commercial banks managements to improve their performance, and the study is an input for private commercial bank managements to know deeply the impact of NPL on their bank performance and also it serves as secondary data for those who need further researches. The findings of the study will help Ethiopian banks get insight on what it takes to improve their loan qualities and the central bank (NBE) to examine its policy in banking supervision pertaining to the asset quality banks shall maintain.

1.6 Scope of the Study
The scholar decided to limit this study to the private commercial banks found in Ethiopia namely Dashen bank, Awash bank, United bank, Wegagen bank, Lion international bank, Nib international bank and Zemen bank that were registered by NBE before 2007/08. These banks were selected since they are oldest banks and are expected to have more experience on the lending activities. To this end, this study covers a panel data of these banks over the period 2010/11 to 2019/20. Thus, this study is limited to both bank specific and macroeconomic determinants of NPLs of some selected private Commercial banks in Ethiopia of the above mentioned periods

2. LITERATURE REVIEW
2.1 Theoretical Literature
2.1.1 Definition of loan
Loan is an arrangement in which lender gives money or property to a borrower and the borrower agrees to return the property or repay the money, usually along with interest, at some future points in time, usually there is a predetermined time for repaying a loan, and generally the lender has to bear the risk that the borrower may not repay a loan through modern capital markets have developed many ways of meaning this risk (Arega S, Asfaw at etal.2016)

Defaults: Defaults is defined as failure to pay a debt loan at the right time or who did not repay the loan within due date (Ibid).

2.1.2 What is Non-performing Loan

There is no common definition of nonperforming loans (NPLs) in the whole world since it is recognized that it is possible that what is appropriate in one country may not be so in another. There is, however, some common opinion on this issue (Gadise Gezu, 2014). According to Oxford Dictionary of Finance & Banking (3rd Edition), nonperforming loan (NPL) is a loan on which the interest or payments are overdue. In the USA, non-performing loans (NPLs) defined by regulators as a category of loan on which the interest or payments due for more than 90 days". Based to Oxford Business English Dictionary, non-performing loan (NPL) is a loan in which the borrower has not made a payment for a particular period of time.

According to National Bank of Ethiopia directive number SBB/43/2008, "Nonperforming" means loans or advances whose credit quality has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advance is in question. "A non-performing loan is a loan that is in default or close to being in default.

2.2 Empirical Literature

This section presents empirical review of previous studies on the non-performing loans and financial performance of commercial banks.

Lydnon, Peter and Ebitare (2016) investigated the relationship between non-performing loans and bank performance in Nigeria for the period of 1994-2014. The multiple regression technique was used to analyze the data. The result of the study shows that Bad loans (BAL) and Doubtful Loans (DOL) had statistically negative significant influence on Return on Capital Employed (ROCE), while Substandard Loan (SUL) had statistically negative insignificant impact on ROCE. The result further shows that high level of non-performing loans would reduce the performance of banks in the long-run in Nigeria.

Similarly, Ranabhat, S., & Subedi, R.(2022) examine the impact of non-performing loan and macro-economic variables on financial performance of commercial banks in Nepal. The regression and correlation analysis of secondary data reveals that the relationship between ROA, ROE and CAR with NPL is negative and insignificant. Similarly, the relationship between macro-economic variables with NPL is insignificant for JV and NJV banks. This implies that increase in NPL decreases ROE and ROA. (Ranabhat, S., & Subedi, R. 2022).

On the contrary, Joseph and Okike (2015) investigated the impact of Non-performing loans on firm profitability: A focus on the Nigerian Banking industry for a period of (7) year (2006-2012). Data were analyzed using the regression statistical tools and the result revealed that there is no relationship between the Non-performing Loans (NPL) and Return on Asset (ROA) of Nigeria Banks. This means that the assets values of the firms are not affected by the level of Non-performing Loans(NPL).

Niroula, B., Upadhaya, J., & Singh, S. 2024 examine the effect of non-performing loans and financial performance of commercial banks in Nepal. Five years data (2015/16 to 2019/20) of annual financial statements are interpreted and analyzed using inferential (correlation and multiple regression) statistics. The study takes two dependent variables (ROA and ROE) and five independent variables (CAR, CRR, Size?, GDP, and Inflation). The findings show that there are statistically positive and significant effects of size and inflation on ROA.

On the contrary, other studies Alexiou and Sofoklis, 2009 examines the factors influencing the profitability of Indian commercial banks considering increased globalization, intensified competition, and enhanced concentration. The sample is a balanced panel dataset of 89 banks operating in India for the period 2005 to 2015. The finding shows that inflation and profitability have negative relationship.

Annual GDP growth rate represents the growth of economic activity, which can be viewed as macroeconomic determinant of bank profitability. According to demirguc-Kunt and Huizinga (1999), and Bikker and Hu (2002),GDP growth has a positive effect on banks profitability, possibly due to increase in lending. Mrindoko, A., Macha, D., & Gwahula, R. 2020) examined the relationship between non-performing loans and the performance of Tanzanian commercial banks. The data were analyzed using fixed and random effect regression models and PLSSEM. The result shows annual GDP rate was observed to show a negative and significant effect on both ROA and ROE. Moreover, Smaoui and Salah (2012) find that GDP growth has insignificant effect on bank profitability. In view of majority of the empirical literature, a positive relationship is expected between GDP growth rate and bank's profitability .

Mrindoko, A., Macha, D., & Gwahula, R. 2020 examined the relationship between non-performing loans and the performance of Tanzanian commercial banks. The Data were analyzed using fixed and random effect regression models and PLSSEM the analysis shows that the Lending interest rate was found to have an insignificant and negative relationship with ROA and ROE. Noor, G., & Suhendra, E. 2024 examined the effect of capital Adequacy Ratio (CAR), loan to deposit ratio (LDR) and non-performing loan (NPL) against return on asset (ROA) with net interest margin (NIM) as an intervening variable in Bumn bank. The finding shows that Loan Interest Rate significantly affects Return on Assets.

Ramji Gautam, 2018 studied the impact of non-performing loan on profitability of Nepalese commercial banks for the period from 2007/08 to 2016/17. ROA (return on assets) and ROE (return on equity) are dependent variables whereas one of the independent variables is net profit to loan and advance (NPLA). The regression models have been employed to test the impact of non-performing loans on profitability of commercial banks. The result shows that interest income to loan and advance are positive on return on assets.

2.3 Conceptual Framework
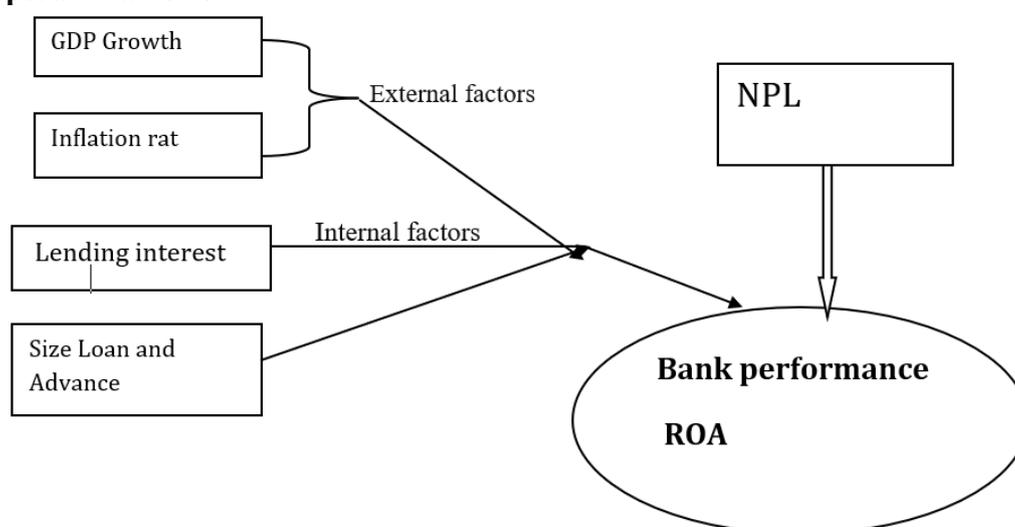
3. RESEARCH METHODOLOGY
3.1 Research Design
The Study adopted Explanatory research method. Explanatory design is a popular strategy for mixed methods design that often appeals to researchers with strong quantitative leanings. (Morse, 1991).

3.2 Research Approach

The study adopted both quantitative and qualitative research approaches. A mixed methods research design is a procedure for collecting, analyzing, and "mixing" both quantitative and qualitative research and methods in a single study to understand a research problem. The qualitative research is analysis, describing the collected data. Thus, due to quantitative nature of data, the researcher used deductive reasoning to examine the cause and effect relationships between NPLs and in relation with bank performance.

3.3 Target Population

The target populations of the study are all private commercial bank in Ethiopia. From those the researcher selected Dashn Bank, United Bank, Zemen Bank, Awash Bank, Nib International bank, Wegagen Bank and Lion International Bank. The Study selected the sample from the population based on performance and year of establishment.

3.5 Source of data

The researcher collected secondary data from annual financial reports for ten years, credit directives and guidelines issued by National Bank of Ethiopia and empirical studies.

3.6 Methods of Data Analysis

The researcher used ordinary least square (OLS) by using statistical package "STATA 13" software to determine the most important and influential explanatory variables affecting the financial performance of private commercial bank.

3.7 Model Specification

The study used a panel data methodology while estimating the relationship between NPLs and other factors of Banks' performance by using OLS model. Baltagi (2008) expresses that panel data are able to manage individual heterogeneity due to hidden factors which if neglected in times-series or cross-section estimations lead to prejudiced results. The general form of the models can be specified as follows:

$Y_{it} = \alpha + \beta X_{it} + \pounds_{it}$

Where the subscript i denotes the cross-sectional dimension and t represent the time-series dimension. The left-hand variable Y_{it} represents the dependent variable in the model, and X_{it} contains the set of explanatory variables in the estimation model. α is the constant, and β represents the coefficients. ε_{it} represents the random error term.

ROA = α + β 1NPLR+ β2RLA+β3INRit + β4GDPRit + β5LIRit+ £it

Where ROA (Return on Asset) = <u>Net income</u>
Total Asset
ROA: return on asset NPLR: nonperforming loan rate   INR: inflation rate
GDP: gross domestic product rat   LIR: landing interest rate   LA: size of loan and advance
$\beta1$, $\beta2$ and $\beta3$ are the partial slope coefficients or parameters of the independent variables, INR, NPL, LA, GDP and LIR respectively, α is the intercept term or constant variable in each of the models, **£** is the disturbance term(error term) and i at time t.

4. RESULT ANALYSIS, PRESENTATION AND INTERPRETATION

The studies covered time series segment from the period of 2010/11 to 2019/20 and a cross section segment has considered seven private banks of Ethiopia. Under this part, the study considered all tests of the research that include descriptive statistics, linear regression model assumptions, diagnosis test Correlation analysis, model specification and regression analysis.

4.1 Descriptive Statistics

In this section, the researcher presents the descriptive statistics of dependent and independent variables which are used in the study. The dependent variable used is financial performance of some selected private commercial bank which is measured by return on asset(ROA) and independent variable are non-performing loan rate (NPL), size of Loan and advance(LA), Gross domestic product(GDP), inflation rate(INR) and Lending interest rate(LIR). The total observations of dependent and independent variable were 70 which were collected from 7 private commercial banks for period of 2010/11 to 2019/20. The overall descriptive statistics that computed in the study includes mean, standard deviation, minimum and maximum of all study variables.

Table 4.1 result of descriptive statistics

summarize ROA NPL LA GDP LIR INR

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	70	3.877857	1.219109	2	6.72
NPL	70	3.219857	1.00386	1.5	5.67
LA	70	9699.045	8980.762	383.92	40262.1
GDP	70	10.0495	1.584399	7.705	13.19
LIR	70	12.56457	.6926711	11.88	13.5
INR	70	14.64	9.81998	7.3	38

Source: output of STATA -13

The results in Table 4.1 show that Ethiopian private banks had an average Return on Assets (ROA) of 3.87% over the last 10 years, with a standard deviation of 1.219%, ranging from 2% to 6.72%. Non-Performing Loans (NPLs) averaged 3.219%, fluctuating between 1.5% and 5.67%, with a standard deviation of 1.00.

The average loan and advance size was 9,699, with significant variation (standard deviation of 8,980.76), ranging from 383.92 to 40,262.1. GDP had a mean of 10.049 with a standard deviation of 1.58, fluctuating between 7.705 and 13.19. Inflation averaged 14.64% with a standard deviation of 9.81%, ranging from 7.3% to 38%. The lending interest rate (LIR) had a mean of 12.56% and a standard deviation of 0.69%, with values between 11.88% and 13.5%.

4.2 Correlation Analysis

Table 4.2 result of Correlation Matrix

. corr ROA NPL LA GDP LIR INR

(obs=70)

	ROA	NPL	LA	GDP	LIR	INR
ROA	1.0000					
NPL	-0.0493	1.0000				
LA	-0.5359	-0.1600	1.0000			
GDP	0.6404	0.1631	-0.3096	1.0000		
LIR	-0.7184	-0.1088	0.5341	-0.5527	1.0000	
INR	0.3190	-0.0419	-0.0333	0.2705	-0.2629	1.0000

Source: output of STATA -13

The results indicate that ROA is positively correlated with GDP and INR, increasing by 0.64% and 0.31%, respectively, when these factors rise. Conversely, ROA has a negative correlation with NPL, LA, and LIR, decreasing by 0.049%, 0.53%, and 0.71%, respectively, as these factors increase. This suggests that GDP and INR positively impact private commercial banks' performance, while NPL, LA, and LIR have a negative effect.

4.3 Diagnosis Tests
4.3.1 Heteroscedasticity

Table 4.3 result of whites test hetroskedasticity

```
. imtest , whit

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

      chi2(20)      =       29.43
      Prob > chi2   =       0.0796

Cameron & Trivedi's decomposition of IM-test
```

Source	chi2	df	p
Heteroskedasticity	29.43	20	0.0796
Skewness	7.60	5	0.1797
Kurtosis	0.11	1	0.7369
Total	37.14	26	0.0725

Source: Output of STATA -13

As indicated in the above, in white‶s test P-values of these test statistics 0.079 is considerably in excess of 0.05, based on this statistic result the variance of disturbance term is constant and there is no Heteroscedasticity problem.

4.3.2 Test for Auto Correlation

Table 4.4 result of Breush- Godfrey autocorrelation test

```
. estat bgodfrey , lag(68)

Breusch-Godfrey LM test for autocorrelation
```

lags(p)	chi2	df	Prob > chi2
68	70.000	68	0.4102

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H0: no serial correlation
```

Source: output of STATA -13

The Breusch godfrey test of autocorrelation for 70 observations panel data statistics indicates that the p value of 0.4102, which is greater than 0.05 So, the study concluded there is no autocorrelation problem in the study model.
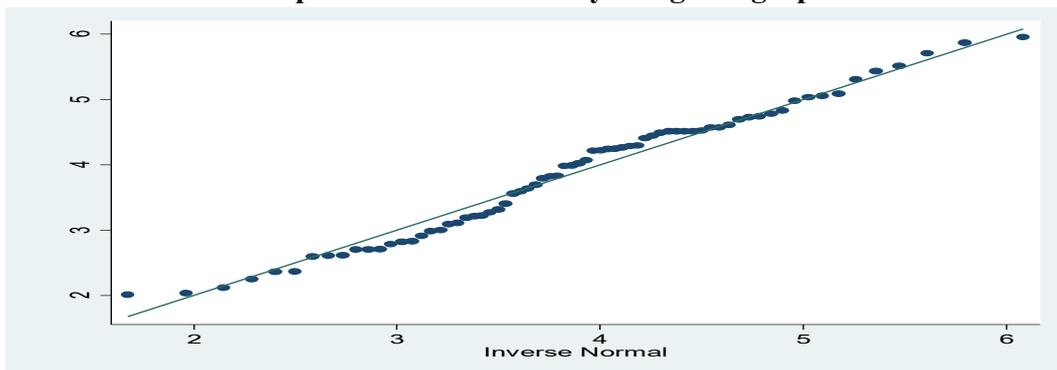
4.3.3 Test for Normality

Table 4.5 result of jarque-Bera normality test

. jb residual

Jarque-Bera normality test: 2.515 Chi(2) .2844

Jarque-Bera test for Ho: normality:

Source: output of STATA -13

The result indicates that chi (2) is 0.284 which is greater than 0.5.This implies the residuals are normally distributed.

Graph 4.1test of normality hisogram graph

Source: output of STATA -13

The result indexes that the data spreads around the diagonal line and follows the direction of the diagonal line. The histogram graph shows the normal distribution pattern at 5% level, so the regression model meets the normality assumption.

4.3.4 Multicollinearity Test

Table 4.6 result of multicollinearity test

pwcorr NPL LA GDP LIR INR, sig star(0.1)

	NPL	LA	GDP	LIR	INR
NPL	1.0000				
LA	-0.1600	1.0000			
	0.1857				
GDP	0.1631	-0.3096*	1.0000		
	0.1772	0.0091			
LIR	-0.1088	0.5341*	-0.5527*	1.0000	
	0.3700	0.0000	0.0000		
INR	-0.0419	-0.0333	0.2705*	-0.2629*	1.0000
	0.7308	0.7841	0.0235	0.0279	

Source: output of STATA -13

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The result indicates that the highest correlation coefficient is 0.78 between inflation rate (INR) and loan and advance (LA), that means all variables are low correlation power, which is below 0.8 implies no multicollinearity problem in the explanatory variables of this study. So the independent variables are an exact linear combination of the other independent variables or variables are exact collinearity.

Table 4.7 result of variance inflation factor

vif

Variable	VIF	1/VIF
LIR	1.89	0.529343
GDP	1.51	0.664372
LA	1.44	0.693012
INR	1.13	0.885782
NPL	1.05	0.952854
Mean VIF	1.40	

Source: output of STATA -13

Multicollinearity is tested using the Variance Inflation Factor (VIF). The results show that all independent variables have VIF values below 10, indicating no multicollinearity issue

4.4 Estimation Methods

Table 4.8 result of Hausman test of fixed random

| | —— Coefficients —— | | | |
| | (b) | (B) | (b-B) | sqrt(diag(V_b-V_B)) |
	Fixed	Random	Difference	S.E.
NPL	-.2491842	-.2230976	-.0260866	.0433622
LA	-.0000216	-.0000337	.0000121	.0000166
GDP	.274718	.2717025	.0030155	.0099039
LIR	-.7719215	-.6736731	-.0982484	.1184901
INR	.0115696	.0132666	-.001697	.0021323

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$chi2(4) = (b-B)'[(V\_b-V\_B)^{(-1)}](b-B)$$
$$= 1.30$$
$$Prob>chi2 = 0.8621$$

Source: output of STATA -13

Table 4.8 shows that the random effects model is preferred over the fixed effects model, as the Chi-Sq. value of 0.86 is not significant at the 5% level

4.5 Results of the Regression Analysis
The regression equation estimated as follow:

ROA = α + β 1NPLR+ β2RLA+β3INRit + β4GDPRit + β5LIRit+ £it

Table 4.9 Result of regression analysis

```
regress ROA NPL LA GDP LIR INR
```

Source	SS	df	MS			
Model	69.4384258	5	13.8876852	Number of obs =	70
Residual	33.1111508	64	.517361731	F(5, 64) =	26.84
				Prob > F =	0.0000
				R-squared =	0.6771
				Adj R-squared =	0.6519
Total	102.549577	69	1.48622575	Root MSE =	.71928

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
NPL	-.2230976	.0883662	-2.52	0.014	-.3996294	-.0465657
LA	-.0000337	.0000116	-2.91	0.005	-.0000568	-.0000105
GDP	.2717025	.0670506	4.05	0.000	.1377536	.4056515
LIR	-.6736731	.1718213	-3.92	0.000	-1.016926	-.3304206
INR	.0132666	.0093691	1.42	0.162	-.0054503	.0319836
_cons	10.46236	2.508129	4.17	0.000	5.451796	15.47292

Source: output of STATA -13

The adjusted R^2 value of 0.677% indicates that 67.7% of ROA variation is explained by LA, NPL, INR, LIR, and GDP, while the remaining 32.3% is due to other factors. INR is insignificant (p-value > 0.05), while LA, NPL, LIR, and GDP significantly impact ROA.
NPL negatively affects ROA, with a 1% increase in NPL reducing ROA by 0.223% (p = 0.014). LA also has a negative impact, where a unit increase decreases ROA by 0.00003%. GDP positively influences ROA, as a 1% rise in GDP increases ROA by 0.27% (p < 0.05). LIR has an inverse effect, with a 1% increase reducing ROA by 0.67% (p < 0.05). INR has a positive but insignificant relationship with ROA (p > 0.05).

4.6 Discussion of Findings and Hypothesis Results
Non-performing Loan Rate
H1$_0$: Non-performing loan rate has positive impact on bank performance
H1a: Non-performing loan rate has negative impact on bank performance
The OLS regression in Table 4.9 shows that NPL has a significant negative impact on bank performance in Ethiopia. A one-unit increase in NPL reduces ROA by 0.223 units, indicating an inverse relationship. Thus, the null hypothesis is rejected and alternate hypothesis is accepted.

Loan and Advance
H2$_0$: Size of loan and advance has positive impact on bank performance
H2a: Size of loan and advance has negative impact on bank performance
The table 4.9 shows a significant negative relationship between loans and advances and ROA at the 5% level. Thus, the alternative hypothesis is accepted, and the null hypothesis is rejected.

Gross Domestic Product (GDP)
H3$_0$: GDP has positive impact on bank performance.
H3a: GDP has no positive impact on bank performance

The above table 4.9 results show that GDP has a positive and significant relationship with bank performance at the 5% level. Thus, the null hypothesis is accepted, and the alternative hypothesis is rejected

Lending Interest Rate (LIR)
H4$_0$: Lending interest rate has positive effect on bank performance.
H4a: Lending interest rate has no positive effect on bank performance.
The above table 4.9 results shows a negative relationship between lending interest rate (LIR) and bank performance, with a 1% increase in LIR reducing ROA by 0.67%. Thus, the null hypothesis is rejected and alternative hypothesis is accepted.

Inflation Rate (INF)
H5$_0$: Inflation rate has positive impact on bank performance.
H5a: Inflation rate has no impact on bank performance
The above table 4.9 results show that inflation has a positive but insignificant impact on bank performance, with a 1% increase raising ROA by 0.013%. Thus, the null hypothesis is accepted

Hypothesis Summary Result

S/N	Hypothesis	Accept/Reject
1	H1: Non-performing loan rate has positive impact on bank performance.	Reject
2	H1: Inflation rate has positive impact on bank performance.	Accept
3	H1: GDP has positive impact on bank performance.	Accept
4	H0: Landing interest rate has negative effect on bank performance.	Accept
5	H0: size of loan and advance has negative impact on bank performance	Accept

5. CONCLUSION AND RECOMMENDATION
5.1 CONCLUSION
This study investigated the impact of non-performing loans on bank performance in case of some selected private commercial banks in Ethiopia from the period 2010/11- 2019/20. The result has shown that the explanatory variables have significant impact on return on assets (ROA). The relationship between the dependent variables and the explanatory variables is indicated by the coefficient of each of the explanatory variables. A unit increase in the percent of non-performing loans (NPL), loan and advance (LA) and lending interest rate (LIR) led to decrease in the performance of private commercial banks. However, the GDP and inflation rate (INR) showed positive relationship with performance of   private commercial banks. While relationship with inflation rate (INR) is not significant. Based on the above findings the researcher concludes that, the effect of non-performing loan is a critical issue which must be given high importance to boost bank performance.

5.2 RECOMMENDATIONS
Based on the results, the study recommends that:
❖ The government should consolidate Macroeconomic factors that have   impact on bank performance in particular and country's income (GDP) at large. Policy makers should involve and critically incorporate the issue of the macroeconomic variables like inflation and GDP during decision making on baking performance at country level and overall economy of the country.
❖ Since lending interest rate is decided by National Bank of Ethiopia. Higher lending interest rates negatively affects performance of the banks. Therefore, the researcher recommends that, BE should make an amendment and involve high ranked professionals of the private banks in the decision making on lending interest rate.

❖ Based from the finding the result shows that NPL has a negative impact on bank performance .This is obvious that NPL affects bank performance. Based on that, the researcher recommends that to overcome the problems of high NPL all private banks should employee enough manpower to follow up and credit officers and senior credit officers to tackle the problem.

❖ Standing from the result Loan and advance has a negative effect on bank performance. The problem might be providing excess loan and advance without enough man power to monitor utilization of these loan and advances by borrowers. Therefore, all private banks should develop a culture of controlling and managing those loans and advances rigorously so that they do not result in before they are enter into NPL.Ahmad N., &Aiff M.(2008).Multi-country study of Bank Credit risk determinants. The international journal of Banking and Finance.https:doi.org/10/32890/ IJBF2008.5.1.8362

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