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Effect of Bank Specific Factors on Default Risk among Commercial Banks in Kenya

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Abstract

Risk of defaulting has been on the rise globally with nonperforming loans of commercial banks increasing for the last decade. Similar trends are seen locally with commercial banks recording an increase in non-performing loans. The central bank of Kenya supervision annual report indicated that the ratio of non-performing loans to gross loans has tremendously increased. These figures reveal a deteriorating trend in default risk which is not healthy to the performance of the commercial banks and the overall financial adequacy of the economy and therefore provides the impetus for conducting this study. The study therefore sought to determine bank specific factors that influence default risk among commercial banks in Kenya. A descriptive survey design was adopted. The study targeted all the 40 operational commercial banks in Kenya by the year 2018. The study used secondary data extracted from the annual financial reports of the CBK from the year 2013 to the year 2018. The study found that credit growth and interest on loans had a positive and significant effect on default risk among commercial banks in Kenya. However, management efficiency had a negative and insignificant effect on default risk among commercial banks in Kenya. In addition, inflation partially moderated the relationship between bank specific factors and default risk among commercial banks in Kenya. The study concluded that high amount of credit borrowed in a bank led to high non-performing loans. In addition, high interest rates charged by commercial banks causes increase in the non-performing loans. The study recommended that banks should minimize their lending interest rates. This will enable the borrowers to be able to pay the borrowed loan and thus minimize the default risk. Banks should further ensure that their assets and earning are well managed so as to minimize their loan risk.

Keywords: *management efficiency, interest rates, credit growth, inflation, default risk*

1.0 INTRODUCTION

Financial institutions are critical in propelling growth in any economy due to various monetary services they deliver. By bridging the gap between the provision and need for funds, financial institutions help in the economic expansion, which ensures the financial service sector is stable. Kargi (2011) noted that generation of credit has over years been the major source of banks income, mainly gained by lending diversified loans to customers. These loans include personal unsecured loans, credit cards, mortgages, invoice discounting and commercial business loans. Lending by financial institutions many times put the lenders at a risk of credit losses in case the borrowers' default.

Alshatti (2015) noted that monetary sector is exposed to various risks like financial risks, credit risks, foreign exchange risks, interest rate risks, and operational risks, legal and reputational risks. Based on Basel Committee on Banking Supervision (2001), credit risks refers to the probability of losing loan balances in full or in part due to the likeliness of creditors who fault defaults Han (2015) states the three main dimensions in credit risks as profit loss risk, interest loss risk and principal loss risk and observed that the financial institution would suffer huge lose with the increase in credit risks.

In their statement Chaibi and Ftiti (2015), financial institutions are at a risk of losing credit every time the value of its assets fails because of the variation in the borrowers' fiscal condition. Stakeholders might lose confidence in the bank operations, in case of rampant loss of earnings, it also cuts down on the availability of credit for potential creditors, putting the bank's liquidity at risks hence raising the chances of the bank going bankrupt and not being in the position to handle its responsibility (Farook, Hassan, & Clinch, 2014). The level of inactive loans in any financial institution is shown by the quality of assets hence banking organizations should focus more on the recovery outstanding credit.

Cucinelli (2015) discovered that levels of nonperforming loan portfolio is increasing which will lead to credit losses. Chi and Li (2017) and Bashir and Hassan (2017) discovered strong bond between financing cost and loan default. Majority of the huge loan defaulters do so mostly in the course of servicing their debts, hence loan defaulting is an inevitable element in commercial banking. Early identification of the underlying factors that determine credit losses in financial institution is a key step in the estimation of the expected losses given a particular loan portfolio.

Financial institutions are licensed and regulated pursuant to the provisions of the Banking Act and the Regulations and Prudential Guidelines issued thereunder. They are the lead in the Kenyan Banking system and they are given keen attention while conducting off-site and on-site surveillance to make sure that they abide by laws and regulations. The banking industry has been earmarked as a key pillar to the achievement of vision 2030 (Nasieku & Ngugi, 2016). The increase of inactive loan rates in banks marks, poor credit process, unexpected challenges in the loan granting processes, lack of enough credit collaterals and others things that are related to poor loan risk control that have negative impact on banks profitability (Mokaya, Jagongo, James & Ouma, 2018).

The activities of the banking industry are critical given that more than 85% of their liabilities are customer's deposits (Musau, Muathe & Mwangi, 2018). The expansion in credit transaction and customer loans has made credit increase inevitable. The trend indicates an increasing bank deposit-loan ratio as the economy grows, however, this is also associated with increase in default risk leading to worsening asset quality and capital adequacy. At the

same time, growth in default risk increase the marginal cost of debt and equity, this in turn increases the cost of funds for the bank (Ebenezer & Omar, 2016).

Globally, China Banking Regulatory Commission report 2014 revealed that default risks is on the rise with nonperforming loans of the country's commercial banks increasing from 250.6 billion Yuan to 842.6 billion Yuan from the previous year. Barongo (2013) indicates an increase in credit losses by 250% from Tsh. 2,173.22 million to Tsh. 9,800.07 million in Tanzania.

In Kenya, KPMG (2016) report indicated that credit losses increased by more than 8.3%. The Equity bank annual report 2016 indicated an increase in credit losses from the previous figures (Equity Bank, 2017). Further, CBK supervision annual report 2015 indicated that the ratio of non-performing loans to gross loans increased from 4.7 percent in December 2012 to 5.2 percent in December 2013. Later the ratio increased from 5.2 per cent in December 2015 to 5.6 per cent in December 2016. These figures reveal a deteriorating trend in default risk which is not healthy to the performance of the commercial banks and the overall financial adequacy of the economy and therefore provides the impetus for conducting this study.

The study was also motivated by existing knowledge gaps in the previous studies. Kipngetich and Muturi (2015) assessed the effect of credit risk management on the financial performance of SACCOs and found that a significant relationship between the two variables. Noman (2015) analyzed the effect of credit risk on the profitability of Bangladesh banks and found a negative and significant effect of CAR on ROA. Further, Isanzu, (2017) investigated the impact of credit risk on the financial performance of Chinese banks and revealed that nonperforming loan have a significant impact of on financial performance of Chinese commercial banks.

It is clear from these studies that the central focus was on credit risk management and not the bank specific factors that affect default risk. By addressing factors influencing default risk, the banks in Kenya were well placed to tackle credit risk scourge that had affected the profitability of the sector.

This study sought to establish the effect of interest on loans on default risk among commercial banks in Kenya, to determine the effect of management efficiency on default risk among commercial banks in Kenya, to establish the effect of credit growth on default risk among commercial banks in Kenya, and to assess the moderating effect of inflation on the relationship between bank specific factors and default risk among commercial banks in Kenya.

2.0 LITERATURE REVIEW

A study by Chelagat (2012) evaluated factors leading to credit non-payment in the banking sector. The research adopted a descriptive survey technique and gathered data using semi-structured instruments. The results revealed that credit non-payment had risen as a result of high financing costs and time taken to do business.

Mukono (2015) examined factors influencing credit payment by small businesses in Kenya. A descriptive survey technique was employed and questionnaires used to collect primary data. The research identified several factors as critical in determining credit repayment. These were amount loan, clients, business and lending firm.

Shikumo (2015) analyzed factors that banks consider when advancing credit to customers in Kenya. A descriptive survey technique was adopted and secondary data collected from audited yearly reports of the banks with a span of five years. The results showed that size of the bank and availability of cash have a significant effect on lending by the banking

organizations. Size of the bank had a direct effect while availability of cash had an inverse effect on banks decision to lend.

Ellul and Yerramilli (2010) analyzed the relationship between risk management and banks performance during the credit crisis using 74 large United States banks. The results revealed that banking organizations with a high management efficiency (captured by high RMI) in 2006 had lower exposure to private label mortgage-backed securities and had a smaller fraction of non-performing loans during the crisis years 2007-2008.

Hosna, Manzura and Juanjuan (2009) assessed the association between loan risk control and banking organizations returns in Sweden. The results revealed that loan risk control influence the firms' returns. However, the research focused on the loan risk control and returns of only 4 banks.

Ahmad (2003) carried out a research on influence of management efficiency on loan risks. The findings indicated that the two variables were inversely related in the case of conventional banks and directly related in the case of Islamic banks. The direct effect implied that a higher portion of earning to total assets was likely to increase loan risk if unmanaged. On the other hand, an inverse effect means that a lower management efficiency was likely to increase loan risk.

Ahmad and Ariff (2007) examined factors influencing banking sector loan risk. The findings indicated regulation as essential in determining credit risk in banks. Quality management was also identified as important factor. Further, the study established that management efficiency as a critical factor influencing credit risk in banks.

Shu-Teng, Zariyawati, Suraya-Hanim and Annuar (2015) examined factors affecting credit repayment by SMEs in Malaysia. A descriptive survey technique was used and data gathered using semi-structured instruments. Results revealed education attainment, experience, amount of credit and repayment duration as having significant effect on credit repayment.

Wahyudi (2014) assessed credit default likelihood by small businesses. The results revealed that business cash flow, financial leverage and financial capacity are critical aspects of credit default among small businesses. However, the study focused on small businesses and not banks.

Gizycki (2001) looked at the relationship between macro variables and banking organizations' loan risk and performance in Australia. One of the factors of focus was inflation and was found to have direct effect on banks credit risk. Appiah (2011) evaluated factors influencing credit default among banks in Ghana and found that inflation influenced credit default.

Aver (2008) analyzed factors determining loan default among banks in Slovenia. The study found that inflation, interest rates and unemployment rate were critical factors in influencing loan default among the banks. However, this study was not conducted in Kenya.

Hietalahti and Linden (2016) assessed loan control and repayment of small enterprises in South African banks. The results revealed that 39% of the loans were not paid on time while 28% defaulted. The research identified fluctuating inflation rate, exchange rate and GDP as critical factors leading to loan default.

3.0 RESEARCH METHODOLOGY

The study adopted descriptive research design with a targeted population of the entire 39 operational commercial banks in Kenya as at the year 2017 (CBK Reports, 2017). A census technique was adopted as supported by Miller and Salkind (2002). Furthermore, Meyers,

Gamst and Guarino (2016) argued that the use of census reduced the likelihood of bias. In this study, a secondary data collection schedule was structured to collect secondary data for a period of 5 years that is 2013 to 2017.

4.0 RESULTS AND DISCUSSION

4.1 Descriptive Analysis

The descriptive results of default risk, interest on loans, management efficiency and credit growth is presented in Table 1.

Table 1: Descriptive Results

	N	Minimum	Maximum	Mean	Std. Deviation
Default Risk	195	0	34182	4223.38	5714.04
Interest on Loans	195	4.2051	18.5681	13.85	2.1000
Management Efficiency	195	-2889	52630	3773.92	6866.27
Credit Growth	195	0	411666	50337.8	69974.6

The results presented in Table 1 indicated that the minimum default risk among commercial banks in Kenya from the year 2013 to 2015 was 0 while the maximum was Ksh 34182 million. In addition, the mean of the default risk was Ksh 4223.38 million while the standard deviation was 5714.04. This implied that default risk was widely spread from its mean.The results indicated that the minimum interest on loans among commercial banks in Kenya from the year 2013 to 2015 was 4.2051% while the maximum was 18.5681%. In addition, the mean of the interest on loans was 13.85% while the standard deviation was 2.10. This implied that interest on loans was widely spread from its mean.

The results indicated that the minimum management efficiency among commercial banks in Kenya from the year 2013 to 2015 was Ksh -2889 million while the maximum was Ksh 52630 million. In addition, the mean of the management efficiency was Ksh 3773.92 million while the standard deviation was 6866.27. This implied that management efficiency was widely spread from its mean. The results indicated that the minimum credit growth among commercial banks in Kenya from the year 2013 to 2015 was 0 while the maximum was Ksh 411666 million. In addition, the mean of the credit growth was Ksh 50337.75million while the standard deviation was 69974.56. This implied that credit growth was widely spread from its mean.

4.2 Trend Analysis

4.2.1 Default Risk

Trend results for default risk are presented in Figure 1.

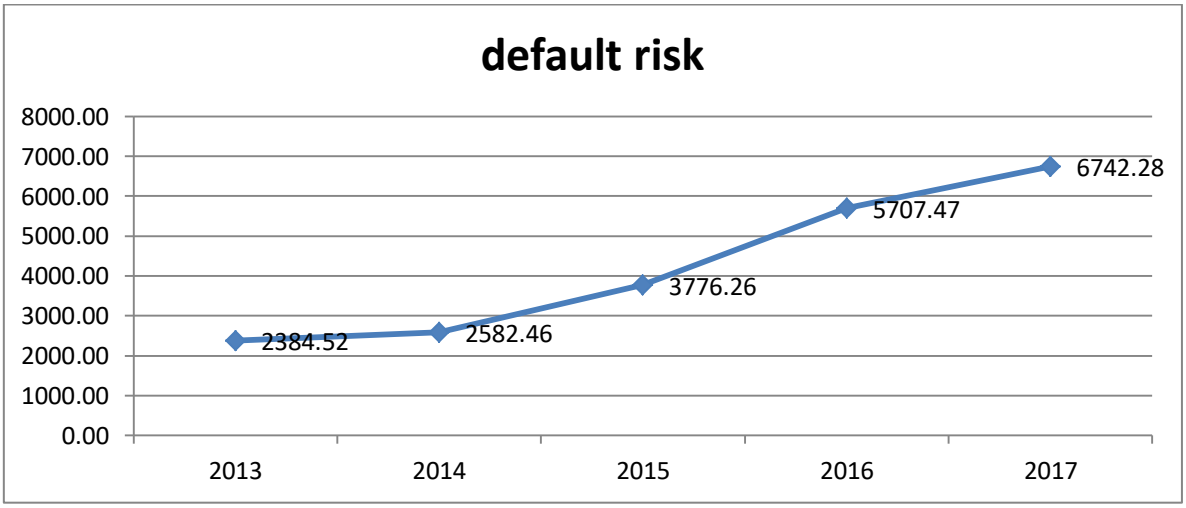

Figure 1: Default Risk

The results as shown in Figure 1 revealed that the mean of default risk in commercial banks was Ksh 2384.52 million in 2013. In addition, the default risk increased to 2582.46 million in the year 2014 and further increased to Ksh 3776.26 million in the year 2015. The default risk further increased to Ksh 5707.46 million in 2016 and further increased to 6742.28 in the year 2017.

4.2.2 Interest on Loans

Trend results for interest on are presented in Figure 2.

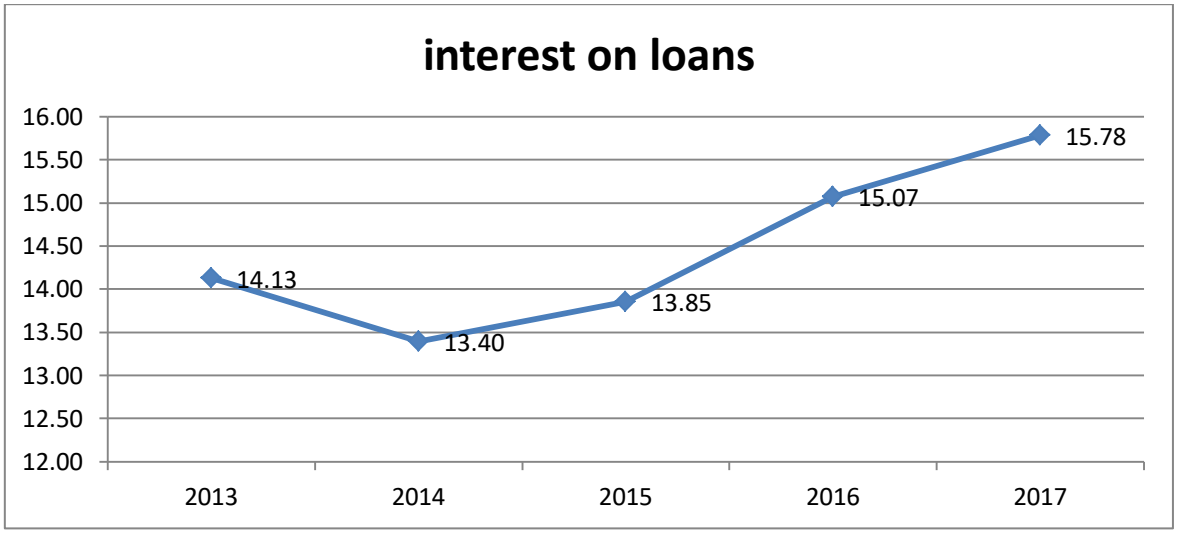

Figure 2: Interest on Loans

The results as depicted in Figure 2 revealed that the mean of interest on loans in commercial banks was 14.13% in 2013. However, the interest on loans decreased to 13.40% in the year 2014 but increased to 13.85% in the year 2015. The default risk further increased to 15.07% in 2016 and further increased to 15.78% in the year 2017.

4.2.3 Management Efficiency

Trend results for management efficiency are presented in Figure 3.

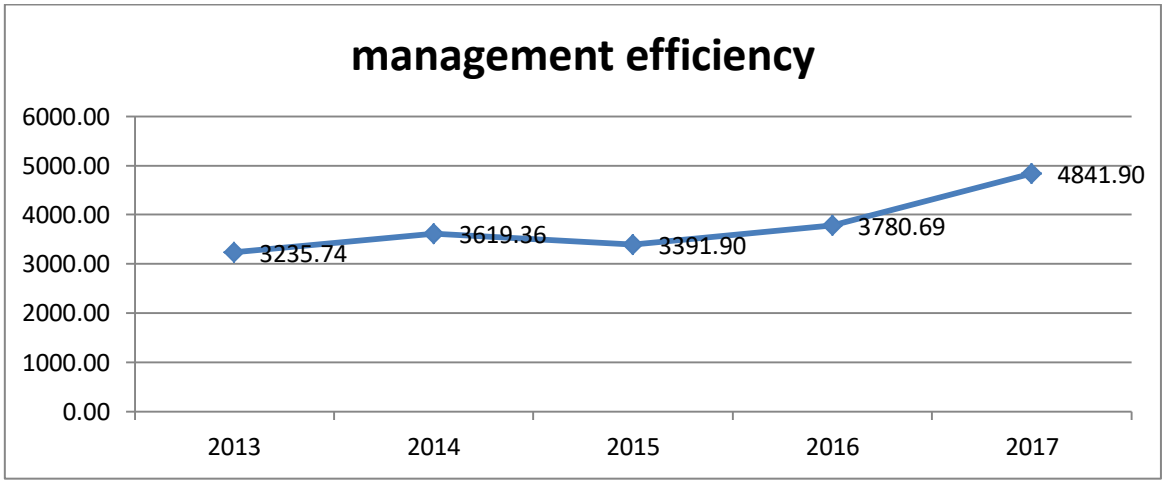

Figure 3: Management Efficiency

The results illustrated in Figure 3 revealed that the mean of management efficiency in commercial banks was Ksh 3235.74 million in 2013. In addition, the management efficiency increased to 3619.36 million in the year 2014 but decreased to Ksh 3391.90 million in the year 2015. The management efficiency further increased to Ksh 3780.69 million in 2016 and increased to 4841.90 in the year 2017.

4.2.4 Credit growth

Trend results for credit growth are presented in Figure 4.

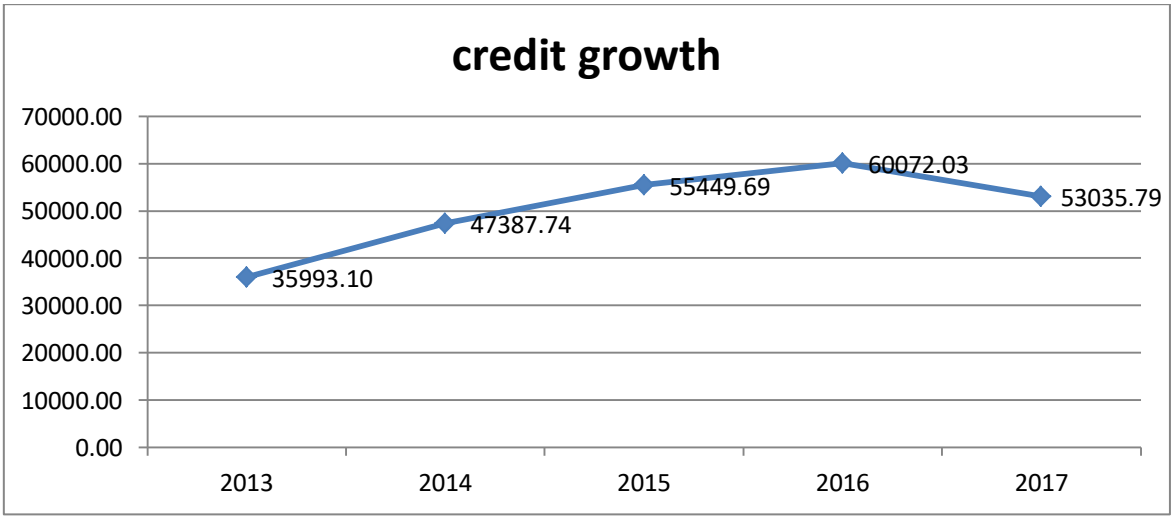

Figure 4: Credit Growth

The results as shown in Figure 4 revealed that the mean of credit growth in commercial banks was Ksh 35993.10 million in 2013. In addition, the credit growth increased to 47387.74 million in the year 2014 and further increased to Ksh 55449.69 million in the year 2015. The credit growth further increased to Ksh 60072.03 million in 2016 but declined to 53035.03 in the year 2017.

4.3 Correlation Analysis

The correlation results are presented in Table 2.

Table 2: Correlation Results

		Default risk	Interest on loans	Management efficiency	Credit growth
Default risk	Pearson Correlation	1.000			
	Sig. (2-tailed)				
Interest on loans	Pearson Correlation	.460**	1.000		
	Sig. (2-tailed)	.000			
Management efficiency	Pearson Correlation	-0.530**	.400**	1.000	
	Sig. (2-tailed)	.000	.000		
Credit growth	Pearson Correlation	.772**	.502**	.682**	1.000
	Sig. (2-tailed)	.000	.000	.000	

The results presented in Table 2 indicated that interest on loan had a positive and significant relationship with default risk (r=0.460, p=0.000). This implied that an increase in interest on loan would lead to increase in amount of default risk. These findings agreed with that of Chelagat (2012) who stated that credit non-payment had risen as a result of high interest rates and time taken to do business.

In addition, the results showed that management efficiency had a strong negative and significant relationship with default risk (r=-0.530, p=0.000). This implied that improvement in management efficiency would lead to decrease in amount of default risk. These findings agreed with that of Ellul and Yerramilli (2010) who stated that banking organizations with a high management efficiency (captured by high RMI) in 2006 had lower exposure to private label mortgage-backed securities and had a smaller fraction of non-performing loans during the crisis years 2007-2008. The findings further agreed with that of Ahmad (2003) who highlighted that management efficiency had an inverse relationship with loan risks of conventional and Islamic banks

The results further showed that credit growth had a strong positive and significant relationship with default risk (r=0.772, p=0.000). This implied that increase in amount of credit growth would lead to increase in amount of default risk. These findings agreed with that of Shu-Teng, Zariyawati, Suraya-Hanim and Annuar (2015) who results revealed that education attainment, experience, amount of credit and repayment duration as having significant effect on credit repayment.

4.4 Regression Analysis without Moderation

This section presented the model summary, analysis of variance and regression of coefficient.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777a	0.604	0.597	0.37835

The results showed the R squared was 0.604%. This implied that interest on loan, management efficiency and credit growth were found to be satisfactory variables in the

performance. This was supported by coefficient of determination i.e. the R square of 60.4% which implied that the variables explain 60.4% of the default risk. The results meant that the model applied to link the relationship of the variables was satisfactory.

Table 4: Analysis of Variance

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	39.675	3	13.225	92.385	.000[b]
Residual	26.054	191	0.143		
Total	65.729	194			

Analysis of the variance (ANOVA) results indicated that the overall model was statistically significant, giving credence that the independent variables are good predictors of default risk, as supported by an F statistic of 92.385 and the reported p value (0.000) being less than the conventional probability of 0.05 significance level.

Table 5: Regression of Coefficient

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.292	0.253		-1.152	0.251
Management efficiency	-0.079	0.094	-0.056	-0.837	0.403
Credit growth	0.779	0.073	0.747	10.716	0.000
Interest on Loans	0.034	0.016	0.118	2.133	0.034

The results revealed that management efficiency had a negative and insignificant effect on default risk of commercial banks (β=-0.079, p=0.403). These findings agreed with that of Ellul and Yerramilli (2010) who stated that banking organizations with a high management efficiency (captured by high RMI) in 2006 had lower exposure to private label mortgage-backed securities and had a smaller fraction of non-performing loans during the crisis years 2007-2008.

In addition, the results showed that credit growth had a positive and significant effect on default risk of commercial banks (β=0.779, p=0.000). These findings agreed with that of Shu-Teng, Zariyawati, Suraya-Hanim and Annuar (2015) who results revealed that education attainment, experience, amount of credit and repayment duration as having significant effect on credit repayment.

The results further showed that interest on loans had a positive and significant effect on default risk of commercial banks (β=0.034, p=0.034). These findings agreed with that of Chelagat (2012) who stated that credit non-payment had risen as a result of high interest rates.

4.5 Regression Analysis with Moderation

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.624[a]	.389	.379	.4792277

The R squared dropped from 60.4% to 38.9%. This implied that inflation partially moderates the relationship between bank factors and default risk of commercial banks in Kenya.

Table 7: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	27.043	3	9.014	39.251	.000[b]
Residual	42.487	185	.230		
Total	69.530	188			

The p value after moderation was 0.000<0.05 implying that the overall model after moderation was significant.

Table 8: Regression of Coefficient

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.006	.265		3.801	.000
X_1Z	.015	.003	.384	5.742	.000
X_2Z	.001	.011	.006	.084	.933
X_3Z	.030	.004	.429	7.169	.000

After moderation, the results showed that the interaction between interest on loans and inflation had a positive and significant effect on default risk in commercial banks (β=0.15, p=0.000). In addition, results showed that the interaction between credit growth and inflation had a positive and significant effect on default risk in commercial banks (β=0.30, p=0.000). However, the interaction between management efficiency and inflation did not have a significant effect on default risk in commercial banks (p=0.933>0.05).

Y (default risk) = 1.006+0.015 X_1Z+0.030 X_3Z

Where Y is default risk, Z is inflation rate, X_1Z is interest on loans*inflation, X_3Z is credit growth*inflation

5.0 CONCLUSIONS

The study concluded that interest on loan had a positive and significant effect on default risk among commercial banks in Kenya. High interest rates charged by commercial banks causes increase in the non-performing loans.

The study concluded that credit growth had a positive and significant effect on default risk among commercial banks in Kenya. High amount of credit borrowed in a bank leads to high non-performing loans. The study further concluded that inflation moderated the relationship

between bank specific factors except management efficiency and default risk among commercial banks in Kenya.

6.0 RECOMMENDATIONS

With higher interest rates numerous borrowers are not able to make the repayment arrangements and end up defaulting. Banks should therefore minimize their lending interest rates. This will enable the borrowers to be able to pay the borrowed loan and thus minimize the default risk. High amount of credit borrowed in a bank leads to high risk of default. Banks should therefore try to minimize the amount of loans they lend so as to minimize the default risk. Inflation regulates credit defaults and thus the Kenyan government should work on improving the Kenyan economy so as to lower the level of inflation. This will favor the commercial banks by enabling the borrowers to be able to repay the borrowed loans.

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