

# **EFFECTS OF CREDIT INFORMATION SHARING AND NON-PERFORMING LOANS IN COMMERCIAL BANKS IN KENYA: A CASE OF BARCLAYS BANK (KENYA)**

**Mwihaki Mary**

Masters Student, Jomo Kenyatta University of Agriculture and Technology, Kenya

**Dr. Muoni Gekara**

Jomo Kenyatta University of Agriculture and Technology, Kenya

©2016

**International Academic Journals**

**Received:** 22<sup>nd</sup> May 2016

**Accepted:** 27<sup>th</sup> May 2016

Full Length Research

**Available Online at:** [http://www.iajournals.org/articles/iajef\\_v2\\_i1\\_75\\_87.pdf](http://www.iajournals.org/articles/iajef_v2_i1_75_87.pdf)

**Citation:** Mwihaki, M. & Gekara, M. (2016). Effects of credit information sharing and non-performing loans in commercial banks in Kenya: A case of Barclays Bank (Kenya). *International Academic Journal of Economics and Finance*, 2 (1), 75-87

**International Academic Journals**

[www.iajournals.org](http://www.iajournals.org) | Open Access | Peer Review | Online Journal Publishers

## **ABSTRACT**

In spite of the launch of credit information sharing mechanism in 2007 in Kenya some banks are still negatively affected by non - performing loans due to the fact that these banks have not fully embraced the use of information sharing mechanism. The research examined the effects of credit information sharing and non-performing loans in Barclays Bank (Kenya). It focused on the influence of banks' knowledge of borrowers' credit history, informational rents, borrowers' credit discipline and borrowers' over-indebtedness on non-performing loans in Barclays Bank (Kenya). Descriptive research design was used in collecting data from the respondents. Target population was drawn from Barclays Bank (Kenya) branches and the head office located in Nairobi County and consisted of six (6) credit managers, thirty seven (37) credit staff. The study undertook census survey to obtain the study sample. Data

obtained using questionnaires was analyzed using descriptive and inferential statistics with the aid of Package for Social Sciences (SPSS17.0). This study established that banks knowledge of borrowers characteristics enable the bank to project more accurately borrowers' loan repayment probability and decrease of interest rates by banks. Banks information on the credit worthiness of their borrowers is improved thus reducing incidences of defaults. Further, credit information sharing compels some banks to price their loans more competitively and enable them to deny credit to over-indebted borrowers unless they offer appropriate collateral for the loan; all these incidents can be avoided through information sharing.

**Key Words:** *non performing loans, information sharing, borrowers characteristics, informational rents, discipline device, over- indebtedness*

## **INTRODUCTION**

Commercial banks play an important role in mobilizing financial resources for investment by lending to various businesses and investors According to (Athanasoglou et al, 2005). Indeed lending represents the heart of the banking industry and loans are the dominant assets as they generate the largest share of operating income. However, when the amount of loan extended by a bank exceeds the level of their assets, banks are exposed to more risk, with the loan ending up being nonperforming (Kabiru, 2002). In Kenya, the Central Bank of Kenya (CBK) bank supervision annual report of 2009 indicated that, non-performing loans (NPLs) in banks expanded by 7.8% to Ksh 64.9 billion by March 31st, 2009 from Ksh 58.3 billion in 2008. NPLs in Kenya stood at Kshs. 107.4 billion at the end of 2001. This represented 38% of total loan of Kshs. 281.7 billion in the banking sector (Oloo, 2003). In comparison to other African economies as at the end of 2000, Kenyan banks' ratio of non-performing loans of 33% is much higher, for instance example in Zimbabwe ratio was (24%), Nigeria's was (11%) and South Africa's ratio was (3%) (CBK, 2001).

**International Academic Journals**

[www.iajournals.org](http://www.iajournals.org) | Open Access | Peer Review | Online Journal Publishers

Banks in Kenya have different credit information regarding the borrowers; consequently borrowers have exploited the information asymmetry by borrowing several loans from the banks and defaulting in the long run thus increasing the level of nonperforming assets (NPAs). To prevent further bank failures, the credit information sharing mechanism was launched in 2007 and the subsequent credit bureau regulations made it mandatory for institutions licensed under the Banking Act to share information on nonperforming loans through credit reference bureaus licensed by the Central Bank of Kenya (CBK, 2007). Credit information to banks is contained in a report which reveals detailed information on a borrower's credit history, identity, credit facilities, bankruptcy and late payments of previous obligations and latest checks made by other prospective lenders (Kabiru, 2002). Information sharing has important effects on credit markets activity as it improves the banks' knowledge of applicants' characteristics and permits a more accurate prediction of their repayment probabilities; reduces the informational rents that banks could otherwise extract from their customers, operate as a borrower discipline device; finally, it eliminates borrowers' incentive to become over-indebted by drawing credit simultaneously from many banks without any of them realizing (Pagano & Jappelli, 1993; Cowan & De Gregorio, 2003).

Despite the launch of credit information sharing mechanism some banks are still negatively affected by information asymmetric (CBK, 2010). They are often unable to observe the characteristics of borrowers, including the riskiness of their investment projects, and this induces adverse selection problems. Many borrowers that are potentially good credit risk fail to get funding because the lenders cannot objectively establish their credit history due to the underlying challenge of information asymmetry. Information asymmetry has distorted the lending business in the credit market, curtaining growth of the credit to the private sector due to the high interest charged on facilities to compensate on the credit risk (CBK, 2009). In addition, the fear of lending to bad debtors has led to the tendency by banks to scramble for less risky lending in the form of government securities such as treasury bills and treasury bonds (CBK, 2010). It is often assumed that the only way lenders can overcome these informational problems is to produce information about their customers via screening and monitoring (Waweru & Kalani, 2009; CBK, 2010). This study examines the effects of credit information sharing on non-performing loans in commercial banks in Kenya particularly Barclays Bank of Kenya. This will enable the banks to understand the relationship between credit information sharing and non-performing loans and thus reducing them which will lead to a sound economy due to well-functioning financial sectors.

The relationship between credit information sharing and non-performing loans in commercial banks in Kenya was investigated with a case study Barclays Bank of Kenya. It was based at Barclays Bank of Kenya branches and the headquarters in Nairobi because the banking activities are coordinated from the bank headquarters in Nairobi. The study focused on the banks' knowledge of borrowers' characteristics, reduction of informational rents, borrowers' discipline

device and borrowers' incentive to be over-indebted from 1997 to 2013. During this period the banking industry had undergone various changes.

## **RESEARCH METHODOLOGY**

Descriptive research design was used in collecting data from the respondents. It was preferred because it ensures complete description of the situation, hence reducing bias in the collection of data (Kothari, 2003). The target population was drawn from Barclays Bank branches and the head office located in Nairobi County and consisted of six (6) credit managers and thirty seven (37) credit staff. Census technique was used to obtain a sample size because it is an attractive sampling method for small populations (less than 200) as it eliminates sampling error and provides data on all the individuals in the population.

The pilot study was conducted on seven respondents from the target population who were not to be included in the final sample. The questionnaires were administered to the group and the results of the pilot study were analysed using Cronbach's alpha with a set lower limit of acceptability of Cronbach alpha 0.6. From the responses, comments and results of the analysis, the entire questionnaire was refined and improved to take care of the observed shortcomings. The questionnaires were self administered as this allowed for intensity and richness of individual perceptions in respondent responses. Each respondent received the same set of questions in exactly the same way. Prior informed consent was obtained from each respondent before the interview schedule is dispatched. Confidentiality of information was also assured to the respondents and was observed by ensuring that unauthorized persons will have no access to the data collected.

Quantitative data was cleaned and then tabulated. The tabulated data was analyzed using descriptive and regression statistics with the aid of Statistical Package for Social Sciences (SPSS 21.0). The study used regression statistics to establish the relationship between independent and dependent variables. The following model was used: -

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon_{it}$$

Where:

Y = Dependent variable (Non-performing Loans)

X = Independent Variables

X<sub>1</sub> = Banks' knowledge of borrowers' characteristics

X<sub>2</sub> = Informational Rents

X<sub>3</sub> = Borrowers' Discipline Device

X<sub>4</sub> = Borrowers' Over-Indebted

$\alpha$  = Constant

$\beta_{1-4}$  = regression coefficient

$\epsilon_{it}$  = error term

For qualitative data, data checklist was developed and was clustered along main themes of the research to ease consolidation of information and interpretation and then analyzed through content analysis. The presentation of data was in form of tables, pie-charts and bar graphs only where it provides successful interpretation of the findings. Descriptive data was provided in form of explanatory notes.

## **RESEARCH RESULTS**

Out of the 43 issued questionnaires, 35 questionnaires representing 81.4% of the total questionnaires distributed were returned fully completed, while 8 questionnaires were not returned representing 18.6% of the total questions distributed to the respondents. It can be inferred that the response rate was good; a response rate of 70% and over is excellent for analysis and reporting on the opinion of the entire population (Mugenda&Mugenda, 2003).

According to the research findings, 62.9% indicated that they had at least a degree level of education; 82.9% were credit staff and 37.1% of the respondents had worked in the organization for a period of between 0-4 years. It can be inferred that the respondents were representative sample of the target population hence the study findings could be generalized to the entire study population. It can also be concluded that sample population was adequately knowledgeable of the study variables to give correct information. This is consistent with the recommendation of Kothari (2003) that the demographic characteristics of the sample population need to be representative enough to enable generalization to be made and knowledgeable on the subject of the study to give relevant information.

### **Non-Performing Loan**

The analysis showed that majority of the respondents strongly agreed that non-performing loan was indicated by a loan past 90 days (82.9%), unsecured Loan (65.7%), uncollectable loan (88.6%) and unrecoverable loan (77.1%). It can be deduced that the indicators of non-performing loans include a loan past 90 days, unsecured Loan, uncollectable loan and unrecoverable loan. This is consistent with the recommendations of Basel II (1999) that a non performing loan is one which is past due date for more than 90 days and is not well-secured and in process of collection.

The analysis on table 1 sought to establish the relationship between the indicators and non-performing loan. The correlation results showed a significant positive relationship between the indicators and non-performing loans as reflected by correlation coefficient (r) and probability value (p). This was demonstrated by the results of the relationships between the indicators of non-performing loans: loans past 90 days ( $r= 0.481, p<.005$ ), unsecured loan ( $r= 0.326, p<.005$ ), uncollectable loan ( $r= 0.385, p<.005$ ) and unrecoverable loan ( $r= 0.421, p<.005$ ). Evidently, the correlation coefficient is positive, hence it can be inferred that there is a positive relationship

between non-performing loans and a loan past 90 days, unsecured loan, uncollectable loan and unrecoverable loan and non-performing loans. These findings enrich the views of Kabiru (2002) that when the amount of loan extended by a bank exceeds the level of their assets, banks are exposed to more risk, with the loan ending up being nonperforming.

**Table 1: Pearson’s Correlation Coefficients**

	<b>NPL</b>	<b>A90</b>	<b>UL</b>	<b>UCL</b>	<b>URL</b>
Non-performing Loan	1				
A loan past 90 days	0.481 0.000	1			
Unsecured Loan	0.326 0.001	0.470 0.000	1		
Uncollectable Loan	0.385 0.002	0.293 0.000	0.302 0.001	1	
Unrecoverable Loan	0.421 0.001	0.362 0.000	0.283 0.003	0.413 0.00	1

**Banks’ Knowledge OF Borrowers Characteristics**

The results illustrated that majority of the respondents agreed and strongly agreed that: Banks knowledge of borrowers characteristics permit more accurate prediction of repayment probability (45.7%); Banks knowledge of borrowers’ characteristics allows lenders to target and price their loans better, easing adverse selection problems (37.1%), Banks knowledge of borrowers’ characteristics enables banks to predict the estimated chances of loan recovery (40.0%), Banks knowledge of borrowers’ characteristics reduces adverse selection by improving banks information on applicants credit (42.9%); information sharing about their clients’ credit worth, they can assess also the quality of credit applicants hence decreasing the default rate (45.7%). Banks knowledge of borrowers’ characteristics enables the banks to select high quality credit seekers (37.1%), Banks knowledge of borrowers’ characteristics decreases interest rates hence default (34.3%).

From the results it was deduced that banks knowledge of borrowers characteristics permit more accurate prediction of repayment probability, allows lenders to target and price their loans better, enables banks to predict the estimated chances of loan recovery, reduces adverse selection by improving banks information on applicants credit and enables the banks to select high quality credit seekers. These findings concur with the views Cowan & De Gregorio (2003) that information sharing improves the pool of borrowers, reduces defaults and decreases interest rates. It can also lead to growth of lending.

## **Informational Rents**

The findings showed that the respondents agreed and strongly agreed that credit information sharing reduces the informational rents (42.9%), levels the bank playing field within the credit market and force lenders to price loans more competitively (37.1%). Information sharing also reduces the bank capacity to charge predatory rates (34.3%), results in a lower default probability, lower interest rates and greater lending (45.7%). Notably, information sharing increases banking competition which in turn leads to greater lending (54.3%). It also encourages borrowers to apply more effort in their loan repayment (28.6) and increases loan interest discrimination between safe and risky borrowers (48.6%). Competitive credit markets increases lending activity and limits the banks' ability to charge more interest. These results agree with the findings of Gehrig and Rune (2005) that credit information sharing reduces the informational rents that banks could otherwise extract from their customers. They tend to level the informational playing field within the credit market and force lenders to price loans more competitively. Lower interest rates increase borrowers' net return and augment their incentive to perform

## **Borrowers' Discipline Device**

The results illustrated that most respondents agreed and strongly agreed respectively that : no clear information about how much credit the borrower has already obtained lead to over-indebtedness and probability of default (45.7%); Borrower's default risk depends on the overall indebtedness of the borrower when his obligation towards that lender will mature (40.0%); credit information sharing on the level of indebtedness of the borrower removes the incentive to over-borrow (51.4%); information sharing removes the incentive to decrease or ration the amount of credit supplied and/or increasing interest rate (57.1%) and credit sharing enable banks to reduce default and increase the supply of lending and reduce the interest rates offered to credit seekers (48.6%).

From the results it was concluded that no clear information about how much credit the borrower has already obtained lead to over- indebtedness and probability of default ; borrower's default risk depends on the overall indebtedness of the borrower when his obligation towards that lender will mature; credit information sharing on the level of indebtedness of the borrower removes the incentive to over-borrow; and provide incentive to decrease or ration the amount of credit supplied and/or increasing interest rate, enable banks to reduce default , increase the supply of lending and reduce the interest rates offered to credit seekers. These findings were consistent with the views of Padilla and Pagano (2000) that credit information sharing creates a disciplinary effect when banks share default information; default becomes a signal of bad quality for outside banks and carries the penalty of higher interest rates. To avoid this penalty, borrowers exert more effort, leading to lower default and interest rates and to more lending.

### **Borrowers' Over-Indebtedness**

The findings indicated that majority of the respondents agreed and strongly agreed with the following statements: information sharing by banks prevent credit seekers from applying for credit from several lenders reducing over indebtedness (40.0%); maintaining multiple lending relationships creates indebtedness of credit seekers if each potential lender has no clear information about how much credit the borrower has already obtained (54.3%); Credit Information sharing reduces the borrower incentive to over-borrow (60.0%); Information sharing by banks reduces incidents of over-borrowing as each bank will ration credit dependent on the ability to pay (42.9%); information sharing on outstanding loans prevent over-borrowing and increases lending to worthy credit seekers (45.7%) and lack of information sharing make banks deny credit over-indebted borrowers unless assisted by collateral (48.6%). These findings are in line with the observations of Jappelli and Pagano (2002) that when lenders share information about outstanding loans they can be expected to prevent over-borrowing increase the supply of lending and/or improve the interest rates offered to credit seekers

### **REGRESSION ANALYSIS**

The correlation results on table 2 showed relationship between the credit information sharing and non-performing loans as reflected by correlation coefficient (r) of 0.537 and probability value (p) of 0.000. On the relationship between individual variables and non-performing loans the results indicated significant relationships as evidenced by: (r= 0.481, p<.005) for Banks' Knowledge of Borrowers Characteristics; (r = 0.395, p<.005) for Informational Rents; (r = 0.446, p<.005) for Borrowers' Discipline Device; (r = 0.502, p<.005) borrowers' Indebtedness.

From the results, it was inferred that there is strong relationship between non-performing loans and banks' knowledge of borrowers' characteristics, informational rents, borrowers' discipline device and borrowers' indebtedness. This confirms the views of Pagano and Jappelli (1993) which were also supported by Cowan & De Gregorio (2003). Their views are information sharing has important effects on credit markets activity as it improves the banks' knowledge of applicants' characteristics and permits a more accurate prediction of their repayment probabilities. Further, it reduces the informational rents that banks could otherwise extract from their customers and operate as a borrower discipline device. Lastly, it eliminates borrowers' incentive to become over-indebted by drawing credit simultaneously from many banks without any of them realizing.



**Table 2: Pearson’s Correlation Coefficients**

	CIS	KBC	IR	BDD	BO	NPL
Credit Information Sharing	1					
Knowledge of Borrowers Characteristics	0.429 0.003	1				
Informational Rents	0.278 0.005	.342 0.002	1			
Borrowers’ Discipline Device	0.408 0.000	0.359 0.002	0.288 0.004	1		
Borrowers’ Over-Indebtedness	0.390 0.000	0.275 0.003	0.287 0.000	0.414 0.00	1	
Non-Performing Loans	0.537 0.000	0.481 0.003	0.395 0.000	0.446 0.002	0.502 0.000	1

**Test of Significance**

The findings on table 3 indicate a positive correlation coefficient ( $r$ ) = 0.633, coefficient of determination ( $r^2$ ) = 0.421 and adjusted  $r$  squared = 0.405. The ( $r^2$ ) indicated that the variations in banks’ knowledge of borrowers’ characteristics, informational rents, borrowers’ discipline device and borrowers’ indebtedness explain 42.1% percent of the variation in non-performing loans. On the other hand, the Adjusted R-square shows that 40.5% (Adj R-square= 0.405) of the variance in the non-performing loans can be explained by the variations in banks’ knowledge of borrowers characteristics, informational rents; borrowers’ discipline device and borrowers’ indebtedness. According to the results on table 3.10, there is a positive correlation between banks’ knowledge of borrowers’ characteristics, informational rents, borrowers’ discipline device and borrowers’ indebtedness and non-performing loans in the bank. These findings confirm the views of Pagano and Jappelli (1993) that when banks exchange information about their clients’, they can effectively assess the quality of credit seekers, and lend to them safely without the risk of loan not performing in future.

**Table 3: Model summary**

Model	R	R Square	Adjusted R Square	df	Sig	Std. Error of the Estimate
1	.649a	.421	.405	4	.002	.385

Analysis of variance (ANOVA) was used to test the significance of the regression model as pertains to differences in means of the dependent and independent variables as shown on table 4.

**Table 4: ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.614	4	.426	2.151	.000a
Residual	7.818	37	.220		
Total	10.432	41			

The results of the ANOVA test (table 4) produced an F-value of 2.065 which was significant at p=0.001. This depicts that the regression model is significant at 95% confidence level. That is, the model has a 0.1 % probability of misrepresenting the relationship between non-performing loans and banks’ knowledge of borrowers’ characteristics, informational rents, borrowers’ discipline device and borrowers’ indebtedness. The variation in the independent variables and dependent variable can be explained by the smaller significance value of the F- values of 0.001 which is smaller than the significance level of 0.05 implying that there is a (statistically) significant relationship between banks’ knowledge of borrowers characteristics, informational rents, borrowers’ discipline device and borrowers’ indebtedness and non-performing loans hence the study model is significant.

**Table 5: Coefficients**

Variables	Coefficients				
	B	Standard Error	Beta	T	P-Value
(Constant)	1.756	0.397		4.426	.000
Knowledge of Borrowers Characteristics	0.211	0.105	.075	2.009	.003
Informational Rents	0.342	0.170	.137	2.011	.000
Borrowers’ Discipline Device	0.267	0.133	.189	2.007	.001
Borrowers’ Over-indebtedness	0.329	0.163	.020	2.018	.004

The data analysis on table 5 shows the influence of Banks’ Knowledge of Borrowers Characteristics (KBC), Informational Rents (IR), Borrowers’ Discipline Device (BDD) and Borrowers’ Over- Indebtedness (BO) on Non-performing Loans (NPL) based on the following regression model:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \xi.$$

This then became:

$$NPL = \beta_0 + \beta_1KBC + \beta_2IR + \beta_3BDD + \beta_4BO + \xi.$$

$$\text{Hence: } NPL = 1.756 + 0.211 KBC + 0.342IR + 0.267BDD + 0.329 BO + \xi.$$

The results shown on table 5 also indicate that banks' knowledge of borrowers' characteristics, informational rents, borrowers' discipline device and borrowers' indebtedness have positive coefficients, implying that these independent variables are directly proportional to non-performing loans. Therefore taking banks' knowledge of borrowers' characteristics, informational rents, borrowers' discipline device and borrowers' indebtedness constant at zero (0), non-performing loans will be 1.756. Hence a unit increase in banks' knowledge of borrowers characteristics, informational rents, borrowers' discipline device and borrowers' indebtedness transaction co will lead to 0.211 (21.1%), 0.342 (34.2%), 0.267 (26.7%) and 0.329 (32.9 %) unit increases in the reduction of non-performing loans.

From the study analysis it can be inferred that banks' knowledge of borrowers characteristics, informational rents; borrowers' discipline device and borrowers' indebtedness predict the extent of non-performing loans, hence there is a significant relationship between banks' knowledge of borrowers' characteristics, informational rents, borrowers' discipline device and borrowers' indebtedness and non-performing loans. These findings are consistent with the findings of Laker (2007) who established that fear of disclosure encourage potential borrowers to avoid seeking loans with little, if any intention of repaying and strengthen management's ability to refuse doubtful loan applications. The findings also support Barron and Staten, (2003) views that credit information sharing permit more accurate prediction of repayment probability; reduce the informational rents that banks could otherwise extract from their customers and cut off loan defaulters from credit or make it more expensive heightening borrowers' incentive to repay.

## **CONCLUSIONS**

Banks knowledge of borrowers characteristics enable the bank to: project more accurately borrowers' loan repayment probability hence reducing incidences of defaults; and enables the bank to decrease interest rates and to target and price their loans appropriately. It also reduces adverse selection by improving banks information on the credit worthiness of their borrowers hence decreasing the default rate by selecting only high quality credit seekers. Credit information sharing reduces the informational rents by leveling the bank playing field within the credit market hence increasing competition in the market and thereby forcing some banks to price their loans more competitively, while at the same time reducing the bank capacity to charge predatory rates. In addition it facilitates the loan borrowers to exert more effort to repay their loans resulting in low default rates. It also enables banks to effectively measure borrower risk category more accurately and to set loan terms or conditions accordingly. Banks' credit information sharing on the level of indebtedness of the borrower removes the borrowers' incentive to over-borrow as lack of clear information about how much credit the borrower has already obtained lead to over-indebtedness and probability of default. It also enables banks to deny credit to over-indebted borrowers unless they offer appropriate collateral.

## REFERENCES

- Athanasoglou, P. P., Brissimis, S. N. and Delis, M. D. (2005). *Bank-Specific, Industry-Specific and Macroeconomic Determinants of Bank Profitability*.
- Barron, J. M. and Staten, M. (2003). *The Value of Comprehensive Credit reports: Lessons from the U.S. Experience: In Credit Reporting Systems and the International Economy: Margaret Miller, ed. Cambridge: MIT Press.*
- Barron, J.M.& Staten, M.E. (2008). The Emergence of Captive Finance Companies and Risk Segmentation in Loan Markets: Theory and Evidence. *Journal of Money Credit and Banking*. 40, 173-192.
- Central Bank of Kenya, (1997). *A Guide to Wise Management of Loans from the Banking Institutions*. Nairobi Central Bank of Kenya
- Central Bank of Kenya, (2001). Bank Supervision Annual Report 2000. Nairobi. CBK
- Central Bank of Kenya, (2007). Bank Supervision Annual Report 2006. Nairobi, CBK
- Central Bank of Kenya, (2008). Basel II implementation Survey Results. Nairobi. CBK
- Central Bank of Kenya, (2009). Bank Supervision Annual Report 2008. Nairobi. CBK
- Central Bank of Kenya, (2010). Bank Supervision Annual Report 2009. Nairobi. CBK
- Cowan, K & De Gregorio, J. (2003). *Credit Information and Market Performance: The Case of Chile, in Credit Reporting Systems and the International Economy*, Margaret Miller, ed. Cambridge: MIT Press.
- Gehrig, T. & Rune, S. (2005). *Information Sharing and Lending Market Competition with Switching Costs and Poaching*. University of Freiburg.
- Jappelli, T.& Pagano, M. (2002). Information Sharing, Lending and Defaults: Cross-Country Evidence, *Journal of Banking and Finance*, 26(10), 2017-45.
- Jappelli, T. and Pagano, M. (1999). *The European Experience with Credit Information Sharing*. Università di Salerno: mimeo.
- Kabiru J. M. G. (2002). *The Relationship between Credit Risk Assessment Practice and the level of Non-performing Loans of Kenyan Banks*, Unpublished MBA Project University of Nairobi.
- Kenya National Bureau of Statistics (2007). *Economic Survey*, Nairobi, Government Printers

- Laker, A.(2007). *Go to Every Laker Home Game for College Credit*, The Los Angeles LakersCommunity Relations department, Los Angeles.
- Pagano, M.&Jappelli, T., (1993). Information Sharing in Credit Markets, *The Journal of Finance* 43(5), 1693-1718.
- Kothari, C.R. (2003). *Research Methodology. Methods and Techniques* (2nd ed.). New Delhi: New Age International.
- Padilla, A. J., & Pagano M. (1997).Endogenous Communication among Lenders and Entrepreneurial Incentives.*The Review of Financial Studies* 10 (1), winter, 205-236.
- Padilla, A. J.& Pagano, M. (2000). Sharing Default Information as a Borrower Discipline Device. *European Economic Review* 44(10), 1951-1980.
- Padilla, A. J.& Pagano, M. (1996). *Sharing Default Information as a Borrower Discipline Device, Industry Study Program Discussion Paper*No. 73, Boston University.
- Padilla, A. J.& Pagano, M. (1999).*Sharing Default Information as a Borrower Discipline Device*. University of Salerno: CSEF Working Paper n. 21.
- Mugenda O.M. &Mugenda A.G. (2003). *Research Methods Quantitative and qualitative approaches*. Nairobi: Acts Press.
- Pagano, M. (2001).*Defusing Default: Incentives and Institutions* (ed.). Washington: Johns Hopkins University Press.
- Pagano, M.&Jappelli, T. (1993). Information Sharing in Credit Markets, *TheJournal of Finance* 43(5), 1693-1718.
- Waweru N. M and Kalani V. M (2009). Commercial Banking Crises in Kenya: Causes and Remedies. *African Journal of accounting, Economics, Finance and Banking Research*, 4 (4), 12 – 33.