

CREDIT RISK MANAGEMENT AND PROFITABILITY OF
COMMERCIAL BANKS IN KENYA

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1.0 INTRODUCTION

1.1 Background

The risk focused examination process has been adopted to direct the inspection process to the more risk areas of both operations and business. Skills in risk-focused supervision are continually being developed by exposing examiners to relevant training. By adopting this approach, the banking industry, and specifically the small banks are sensitized on the need to have formal and documented risk management frameworks (De Juan, 1991). Notably, the more complex a risk type is, the more specialized, concentrated and controlled its management must be (Seppala, 2000; Matz and Neu, 1998; Ramos, 2000). Risk management is defined as the process that a bank puts in place to control its financial exposures. The process of risk management comprises the fundamental steps of risk identification, risk analysis and assessment, risk audit monitoring, and risk treatment or control (Bikker and Metzmakers, 2005; Buttimer, 2001). Whereas a risk in simple terms can be measured using standard deviation, some risks may be difficult to measure requiring more complex methods of risk measurement. Good risk management is not only a defensive mechanism, but also an offensive weapon for commercial banks and this is heavily dependent on the quality of leadership and governance. Jorion (2009) notes that a recognized risk is less “risky” than the unidentified risk. Risk is highly multifaceted, complex and often interlinked making it necessary to manage, rather than fear. While not avoidable, risk is manageable – as a matter of fact most banks live reasonably well by incurring risks, especially “intelligent risks” (Payle, 1997; Greuning and Bratanovic, 1999)).

Financial institutions are exposed to a variety of risks among them; interest rate risk, foreign exchange risk, political risk, market risk, liquidity risk, operational risk and credit risk (Yusuf, 2003; Cooperman, Gardener and Mills, 2000). In some instances, commercial banks and other financial institutions have approved decisions that are not vetted, there has been cases of loan defaults and nonperforming loans, massive extension of credit and directed lending. Policies to minimize on the negative effects have focused on mergers in banks and NBFIs, better banking practices but stringent lending, review of laws to be in line with the global standards, well capitalized banks which are expected to be profitable, liquid banks that are able to meet the demands of their depositors, and maintenance of required cash levels with the central bank which

means less cash is available for lending (Central Bank Annual Report, 2004). This has led to reduced interest income for the commercial banks and other financial institutions and by extension reduction in profits (De Young and Roland, 2001; Dziobek, 1998; Uyemura and Van Deventer, 1992).

Credit risk is the possibility that the actual return on an investment or loan extended will deviate from that, which was expected (Conford, 2000). Coyle (2000) defines credit risk as losses from the refusal or inability of credit customers to pay what is owed in full and on time. The main sources of credit risk include, limited institutional capacity, inappropriate credit policies, volatile interest rates, poor management, inappropriate laws, low capital and liquidity levels, directed lending, massive licensing of banks, poor loan underwriting, reckless lending, poor credit assessment., no non-executive directors, poor loan underwriting, laxity in credit assessment, poor lending practices, government interference and inadequate supervision by the central bank. To minimize these risks, it is necessary for the financial system to have; well-capitalized banks, service to a wide range of customers, sharing of information about borrowers, stabilization of interest rates, reduction in non-performing loans, increased bank deposits and increased credit extended to borrowers. Loan defaults and nonperforming loans need to be reduced (Bank Supervision Annual Report, 2006; Laker, 2007; Sandstorm, 2009).

The key principles in credit risk management are; firstly, establishment of a clear structure, allocation of responsibility and accountability, processes have to be prioritized and disciplined, responsibilities should be clearly communicated and accountability assigned thereto (Lindergren, 1987). According to the Demirguc-Khunt and Huzinga (1999), the overwhelming concern on bank credit risk management is two-fold. First, the Newtonian reaction against bank losses, a realization that after the losses have occurred that the losses are unbearable. Secondly, recent development in the field of financing commercial paper, securitization, and other non-bank competition have pushed banks to find viable loan borrowers. This has seen large and stable companies shifting to open market sources of finance like bond market. Organizing and managing the lending function in a highly professional manner and doing so pro-actively can minimize whatever the degree of risk assumed losses. Banks can tap increasingly sophisticated measuring techniques in approaching risk management issues (Gill, 1989).

Technological developments, particularly the increasing availability of low cost computing power and communications, have played an important supporting role in facilitating the adoption of more rigorous credit risk, implementation of some of these new approaches still has a long way to go for the bulk of banks. The likely acceleration of change in credit risk management in banks is viewed as an inevitable response to an environment where competition in the provision of financial services is increasing and, thus, need for banks and financial institutions to identify new and profitable business opportunities and properly measure the associated risks, is growing (Lardy, 1998; Roels et. al. 1990). Inevitably, as banks improve their ability to assess risk and return associated with their various activities, the nature and relative sizes of the implicit internal subsidies will become more transparent. Brown and Manassee (2004) observe that credit risk arose before financing of business ventures. The bible is hostile to credit by stating that one should not let the sun go down on an unpaid wage. Banks and other intermediaries can transfer the payment delays and the credit risk among producers, or between producers and outside investors (Demirguc-kunt and Huzinga, 2000).

While the commercial banks have faced difficulties over the years for a multitude of reasons, the major cause of serious financial problems continues to be directly related to credit standards for borrowers, poor portfolio risk management or lack of attention to changes in the economic circumstances and competitive climate (Central Bank Annual Supervision Report, 2000). The credit decision should be based on a thorough evaluation of the risk conditions of the lending and the characteristics of the borrower.

Numerous approaches have been developed for incorporating risk into decision-making process by lending organizations. They range from relatively simple methods, such as the use of subjective or informal approaches, to fairly complex ones such as the use of computerized simulation models (Montes-Negret, 1998; CBK Annual Supervision Report, 2000). According to Saunders (1996), banks need to gather adequate information about potential customers to be able to calibrate the credit risk exposure. The information gathered will guide the bank in assessing the probability of borrower default and price the loan accordingly. Much of this information is gathered during loan documentation. The bank should however go beyond information provided

by the borrower and seek additional information from third parties like credit rating agencies and credit reference bureaus (Simson and Hempel, 1999).

Credit risk management is defined as identification, measurement, monitoring and control of risk arising from the possibility of default in loan repayments (Early, 1996; Coyle, 2000). Credit extended to borrowers may be at the risk of default such that whereas banks extend credit on the understanding that borrowers will repay their loans, some borrowers usually default and as a result, banks income decrease due to the need to provision for the loans. Where commercial banks do not have an indication of what proportion of their borrowers will default, earnings will vary thus exposing the banks to an additional risk of variability of their profits. Every financial institution bears a degree of risk when the institution lends to business and consumers and hence experiences some loan losses when certain borrowers fail to repay their loans as agreed. Principally, the credit risk of a bank is the possibility of loss arising from non-repayment of interest and the principle, or both, or non-realization of securities on the loans.

Risks exposed to commercial banks threaten a crises not only in the banks but to the financial market as a whole and credit risk is one of the threats to soundness of commercial banks. To minimize credit risk, banks are encouraged to use the “know your customer” principle as expounded by the Basel Committee on Banking Supervision. ((Kunt-Demirguc and Detragiache, 1997; Parry, 1999; Kane and Rice, 1998). Subjective decision-making by the management of banks may lead to extending credit to business enterprises they own or with which they are affiliated, to personal friends, to persons with a reputation for non-financial acumen or to meet a personal agenda, such as cultivating special relationship with celebrities or well connected individuals. A solution to this may be the use of tested lending techniques and especially quantitative ones, which filter out subjectivity (Griffith and Persuad, 2002).

Banks have credit policies that guide them in the process of awarding credit. Credit control policy is the general guideline governing the process of giving credit to bank customers. The policy sets the rules on who should access credit, when and why one should obtain the credit including repayment arrangements and necessary collaterals. The method of assessment and evaluation of risk of each prospective applicant are part of a credit control policy (Payle, 1997).

A firm's credit policy may be lenient or stringent. In the case of a lenient policy, the firm lends liberally even to those whose credit worthiness is questionable. This leads to high amount of borrowing and high profits, assuming full collections of the debts owed. With the stringent credit policy, credit is restricted to carefully determined customers through credit appraisal system. This minimizes costs and losses from bad debts but might reduce revenue earning from loans, profitability and cash flow (Bonin and Huang, 2001). Fisher (1997), Early (1996) and Greuning and Bratanovic (1999) observe that the lending policy should be in line with the overall bank strategy and the factors considered in designing a lending policy should include; the existing credit policy, industry norms, general economic condition and the prevailing economic climate. The guiding principle in credit appraisal is to ensure that only those borrowers who require credit and are able to meet repayment obligations can access credit. Lenders may refuse to make loans even though borrowers are willing to pay a higher interest rate, or, make loans but restrict the size of loans to less than the borrowers would like to borrow (Mishkin, 1997). The argument is that credit should be made available according to repayment capability based on current performance.

Seppala et. al (2001) and Flannery and Ragan (2002) argue that a sound credit policy would help improve prudential oversight of asset quality, establish a set of minimum standards, and to apply a common language and methodology (assessment of risk, pricing, documentation, securities, authorization, and ethics), for measurement and reporting of non-performing assets, loan classification and provisioning. The credit policy should set out the bank's lending philosophy and specific procedures and means of monitoring the lending activity (Polizatto, 1990; Popiel, 1990).

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repayment obligations can access credit. Lenders may refuse to make loans even though borrowers are willing to pay a higher interest rate, or, make loans but restrict the size of loans to less than the borrowers would like to borrow (Mishkin, 1997). Financial institutions engage in the second form of credit rationing to reduce their risks.

The lending policy should be in line with the overall bank strategy and the factors considered in designing a lending policy should include; the existing credit policy, industry norms, general economic condition in the country and the prevailing economic climate. According to Simonson et al (1986), sound credit policy would help improve prudential oversight of asset quality, establish a set of minimum standards, and to apply a common language and methodology (assessment of risk, pricing, documentation, securities, authorization, and ethics), for measurement and reporting of non-performing assets, loan classification and provisioning. The credit policy should set out the bank's lending philosophy and specific procedures and means of monitoring the lending activity. Credit control policy is the general guideline governing the process of giving credit to bank customers. The policy sets the rules on who should access credit, when and why one should obtain the credit including repayment arrangements and necessary collaterals. The method of assessment and evaluation of risk of each prospective applicant are part of a credit control policy.

The board and management should establish policies and procedures which ensure that the bank has a well documented credit granting process, a strong portfolio management approach, prudent limits, effective credit review and loan classification procedures and an appropriate methodology for dealing with problem exposures. The credit policy should set out the bank's lending philosophy and specific procedures and means of monitoring the lending activity. Because lending represents the central activity of banks and underpins their profitability, loan pricing tends to be the focal point of both revenues and costs.

Simonson and Hempel (1999), Hsiu-Kwang (1969) and IMF (1997) observe that sound credit policy would help improve prudential oversight of asset quality, establish a set of minimum standards, and apply a common language and methodology (assessment of risk, pricing,

documentation, securities, authorization, and ethics), for measurement and reporting of non-performing assets, loan classification and provisioning. The credit policy should set out the bank's lending philosophy and specific procedures and means of monitoring the lending activity. evaluated.

Credit provision by foreign owned banks tend to be less sensitive to exogenously determined changes in interest rate margins than credit supply by domestically owned banks. In being more stable, credit supply by foreign owned banks may limit the magnitude and frequency of lending booms. Since this also reduces the rate of loan default, the operation of foreign owned banks is expected to stabilize the performance of the domestic banking system (Sailesh et. Al, 2005). Gizycki (2001) observe that the effect of real credit growth on bank's credit risk is in line with the view that difficulties in monitoring bank performance can weaken their credit standards in times of rapid expansion of aggregate credit (Chirwa and Montfort, 2004).

In the years before the Basle Accord, large banks in all but a few major countries seemed to hold insufficient capital relative to the risks they were taking, especially in light of the aggressive competition for market share in the international arena. The intention of the original Accord was clearly to arrest a slide in international capital ratios and to harmonize different levels of approaches to capital among the G-10 countries. The Basle II recognizes the common shareholders' equity as the key element of capital but to ensure maintenance of integrity of capital public disclosure is key as each component of capital need to be disclosed. The Accord applies to international states that ownership structures should not be allowed to weaken capital positions of banks (Federal Reserve Release, 2002).

The New Basle Capital Accord otherwise known as Basle II which is organized in three pillars; pillar 1 on the minimum capital requirement, pillar II on supervisory review process and pillar III on market discipline; is supposed to better align regulatory capital with actual risk. The New Basle Accord (2001) has the objective of improving safety and soundness in the financial system by placing more emphasis on the three pillars. The minimum capital requirement which seek to refine the measurement framework set out in 1988 accord, supervisory review of an institutions capital adequacy and internal assessment process and market discipline through effective

disclosure to encourage safe and sound banking practices. The obvious benefit of these pillars is to provide consistency among banks around the world, thus enhancing the stability of the financial markets (Conford, 2000).

Several theories have been put forward which have implications on credit risk management.

Interest rates theories recognize that interest rates have an effect on credit risk because the higher the interest rate the higher the risk that the loan might not be repaid and thus the higher the credit risk. The term structure of interest rate theories contends that the longterm interest rates are more risky than short term interest rates, thus investors expect a higher return if they have to be motivated to hold instruments that are longterm interest bearing instrument. Theories of financial crises contend that crises in the financial sector affects the ability of commercial banks to extend credit as well as the ability of the borrowers to service their loans. Portfolio theory in the banking sector is applied in constitution of loan portfolios of banks where there are guidelines on loans that banks should extend to their clients, such as limit in terms of credit that should be extended to third parties. The agency theory contends that many banks are managed by the managers and not by the owners. Banks that are managed by professional managers are expected to better analyse and monitor credit awarded to their clients. Commercial banks should be properly managed and management should be “fit and proper” to be able to make decisions on credit risk management and that which should steer banks to high levels of profitability.

Regulatory constraints may directly limit banks’ risk-taking as regulations may limit banks’ portfolio composition or may force banks to expand into areas that they previously would not have entered. Regulations may lower the credit standards applied by banks while enhancing rapid expansion of credit (Coyle, 2000). Evolution of credit risk management in banking in the last decade from the point of view of the regulator was that of protecting the interests of depositors by promoting prudent business behaviour and risk management on the part of individual banking institutions though not to eliminate failure but to keep their incidences low. The pace of evolution can be linked to the realization that the techniques are developed for the measurement of credit risk (Laker, 2007; McDonough, 1998; Couhy, 2005; Brown, 2004). Adopting different credit risk management policies is meant to differentiate different banks in terms of credit evaluation.

Gizycki (2001) examined the overall variability of Australian banks' credit risk taking in the 1990s and found out that the impaired asset ratios of smaller banks tend to be more variable than for the larger banks. Foreign banks with small assets bases within Australia experienced particularly high levels of impaired assets and low but variable profits between 1990 and 1992. The variance of the full panel data was decomposed to distinguish variation across banks and variation through time.

Berger(1995) argue that more capitalized banks are able to attract higher earnings because of lower expected bankruptcy costs, which enabled them to pay lower interest on unsecured debt. Hortlund (2005) argue that successful banks could tend to be both more capitalised and more profitable in the short run, which could obscure the fundamental positive relationship between leverage and returns. Hortlund (2005) uses data for Sweden in the year 1870-2001 and finds out that there is a strong positive long-term relationship between leverage and profitability in banking, where long-term is defined as a century.

Basle Accord which focuses on management of credit risk and stated minimum capital requirements was issued in July 1988 and it came into force in 1992. The Basle Accord was intended to provide leadership on the urgency of a full-scale review of the approach to regulatory capital requirements, the importance of reviewing capital in the context of the overall supervision of banks and the need for greater transparency in financial markets (Reisen, 2001). Because the cost of capital was critically important in pricing loans and other credit low expected capital levels were believed to be a driving factor in narrow margins in international lending. The intention of the original Accord (Basle I) was thus clearly twofold; to arrest a slide in international capital ratios and to harmonize different levels of and approaches to capital among selected developed countries (the G-10 countries). Most banks concentrated on commercial lending and related activities thus a measure of credit risk became the foundation of the Basle Accord (Coyle, 2001; Griffith-Jones and Persuad, 2002; Conford, 2000).

Capital is also used as cushion to protect depositors incase of loss. Capital adequacy ratio is measured in terms of total capital as a percentage of total risk weighted assets which show the

amount of capital an institution holds relative to the risk profile of its assets. Capital adequacy is evaluated using the minimum core capital which is the absolute amount of capital that institutions are required to maintain at all times for banks and mortgage finance companies the requirement as by the central bank. The Basle II framework guiding principles as embodied in the three pillars are generally suitable for any bank in any jurisdiction, although full account should be taken of individual circumstances. The three pillars are not viewed as separate but rather as complementary with a general attempt to enhance the international capital adequacy framework and to improve its overall effectiveness and operation. The pillar on market discipline focuses on the disclosures in the areas of structure of capital, risk exposures and capital adequacy that should be made by banking institutions in order to advance the role of market discipline in promoting bank capital adequacy. The Basle Committee has sought to identify gaps in current disclosure practices in the areas of the structure of capital, risk exposures and capital adequacy (Conford, 2000; El-Nil, 1990).

Commercial banks are the foundation of the payment system in many economies by playing an intermediary role between savers and borrowers. They further enhance the financial system by ensuring that financial institutions are stable and are able to effectively facilitate financial transactions. The main challenges to commercial banks in their operations is the disbursement of loans and advances. There is need for commercial banks to adopt appropriate credit appraisal techniques to minimize the possibility of loan defaults since defaults on loan repayments leads to adverse effects such as the depositors losing their money, lose of confidence in the banking system, and financial instability (Central Bank of Kenya, 1997).

In Kenya, commercial banks play an important role in mobilizing financial resources for investment by extending credit to various businesses and investors. Lending represents the heart of the banking industry and loans are the dominant assets as they generate the largest share of operating income. Loans however expose the banks to the greatest level of risk. There are 44 licensed commercial banks in Kenya, one mortgage finance company and one credit reference bureau. Of the 45 financial institutions, 32 are locally owned and 13 are foreign owned. The credit reference bureau, Credit Reference Bureau Africa was the first of its kind to be registered in Kenya by the Central bank of Kenya aimed at enabling commercial banks to share information about borrowers to facilitate effectiveness in credit scoring.

1.2 Statement of the Problem

Weaknesses in the Kenya banking system became apparent in the late 1980s and were manifest in the relatively controlled and fragmented financial system. Differences in regulations governing banking and non-bank financial intermediaries, lack of autonomy and weak supervisory capacities to carry out the Central Bank's surveillance role and enforce banking regulations, inappropriate government policies which contributed to an accumulation of non-performing loans, and non-compliance by financial institutions to regulatory requirements of the 1989 Banking Act among others posed a challenge to the Kenya banking system. Many banks that collapsed in the late 1990's were as a result of the poor management of credit risks which was portrayed in the high levels of nonperforming loans (Central Bank Supervision Report, 2005).

The liberalization of the Kenya banking industry in 1992 marked the beginning of intense competition among the commercial banks, which saw banks extend huge amounts of credit with the main objective of increasing profitability. Some of the loans were "political loans" granted with little or no credit assessment; other loans were made to insiders, all of which subsequently became non-performing. The low quality loans led to high levels of non-performing loans and subsequently eroded profits of banks through loan provisioning some of which appeared outrightly political.

Commercial banks adopt different credit risk management policies majorly determined by; ownership of the banks (privately owned, foreign owned, government influenced and locally owned), credit policies of banks, credit scoring systems, banks regulatory environment and the caliber of management of the banks. Banks may however have the best credit management policies but may not necessarily record high profits. In addition although there are industry standards on what is a good credit policy and what is not and further banks have different characteristics. The market may thus be seen to regard an individual banks' poor performance more lenient when the entire banking sector has been hit by an adverse shock such as a financial crisis. Banks may be forced to adjust their credit policy in line with other banks in the market where a herding behaviour is practiced by banks. Looking at the emphasis that is laid on credit risk management by commercial banks the level of contribution of this factor to profits has not

been analyzed. Rajan (1994) notes that expanding lending in the short-term boosts earnings, thus the banks have an incentive to ease their credit standards in times of rapid credit growth, and likewise to tighten standards when credit growth is slowing.

Does credit risk management in practice really matter to commercial banks. If it does then, it should significantly contribute to profits as high profits are expected to enhance shareholder value.

1.3 Objective of the Study

To determine the relationship between the credit risk management and profitability of commercial banks in Kenya.

2.0 DATA ANALYSIS APPROACH

Credit risk management policies for commercial banks were identified as conservative, stringent, lenient and customized and globally standardized credit risk management policies. Data on the amount of credit, level of nonperforming loans and profits were collected for the period 2004 to 2008. Amount of credit was measured by loan and advances to customers divided by total assets, nonperforming loans was measured using nonperforming loans/ total loans, and profits were measured using ROTA (Return on Total assets). The trend of level of credit, nonperforming loans and profits were established during the period 2004 to 2008. A regression model was used to establish the relationship between amount of credit, non-performing loans and profits during the period of study. R^2 and t-test at 95% confidence level were estimated.

3.0 FINDINGS AND DISCUSSION OF THE RESULTS

3.1 Credit Risk Policies Adopted by Commercial Banks in Kenya

Credit risk is defined as identification, measurement, monitoring and control of risk arising from the possibility of default in loan repayments (Early, 1996; Coyle, 2000).

Various credit risk management lapses resulted from the credit risk management orientations in Kenya since the era when Kenya commercial banks were owned by foreigners or were branches of foreign owned commercial banks.

Credit risk management in Kenya can be captured in four distinguishable phases.

3.1.1 The Conservative Credit Risk Management (Before 1980's)

During this era banks were governed by the credit laws governing their parent banks but the Central Bank of Kenya required the banks to be incorporated in Kenya. The appointment of directors, capital levels and asset composition were dictated by the country of origin of the banks. The licensing of banks was guided by the East African laws but the central bank of Kenya restricted the number of directors to 6. This was also an era of directed lending where credit was awarded to preferred sectors of the economy. Further, lending was restricted to blue chip companies as dictated by the foreign banks which were safe (hence they were making profits) thus repayments were guaranteed. Lending policies were guided by the policies of practices guided by foreign banks which were incorporated under the local law such as the need to meet the minimum capital requirements (Central Bank Annual Report, 1983). The policy was also that of supporting local branches by foreign branches, managers, capital, regulations, policies were dictated by their parent banks which means capital base was high and management was sound. Later when the government invested in quite a number of these banks, most of these policies were abused such as where loans were borrowed for a particular purpose but ended up being utilized for other purposes. Where government established its own banks, it became the majority shareholder and in these banks, directed lending was extended to preferred sectors and preferred individuals. Lending was also directed to parastatals which were well managed. Local banks which were majorly government owned were well managed then but the foreign banks continued with their policies (Central Bank Annual Supervision Report, 1998).

In the conservative era or the era before the 1980's, commercial banks identified risk through requiring extension of credit to blue chip companies. Risk was minimal because these companies ended up paying their loans since their default rate was low. The risk standards were determined by those of parent banks which guided credit risk policies of the banks. Financial institutions were either owned by foreigners or by government all of which were well managed and exposed to little or no credit risk. This was done by ensuring that these institutions were stable, competent managers were employed in these institutions and the institutions were well capitalized. This era had risk indicators as those of limited institutional capacity, limited quality management, inappropriate laws, directed lending, inadequate capital and liquidity ratios. Policies were those of parent financial institutions and management was imported from the country of origin of

parent banks. Laws of country of parent banks were applied by the financial institutions. Lending was to profitable companies which were identified selectively and were commonly known as the blue chip companies. Statutory capital and liquidity levels were introduced. Financial institutions were generally profitable and profits were stable (Central Bank Annual Report, 1976).

3.1.2 Lenient Credit Risk Management (The 1980's)

In this era deposits held by commercial banks was high and banks majorly adopted directed lending form of credit policies. Licensing of banks was by the Minister for Finance. Locally privately owned banks were registered in this era which practiced directed lending but some of them engaged in unsecured lending. Management of the majority of these banks was poor, that is, not in line with 'fit and proper' criteria for banks (Central Bank Annual Report, 1983/84). Poor corporate governance relating to directors was practiced where the chairman was also the Chief Executive Officer (CEO) of the banks and the non-executive directors did not exist. Family members were owners of quite a number of these banks, the chairman and CEO was linked to the family lineage who also owned a huge proportion of the equity of the bank. Poor loan underwriting was the order of the day, thus CAMPARI was not observed. Asian banks emerged which had political inclination; they had directors which had political linkages whose objective was to peddle political influence. Many banks were lending to politicians who were also directors and covered impringement (Central Bank Annual Report, 1985/86). Government banks were directed to lend to parastatals and they and other banks were directed to lend to well-connected individuals. Non-performing loans emerged due to lax supervision by the central bank, lending to parastatals which at this time were badly managed and were not able to service their loans which further increased the non-performing loans and consequently there were massive bank failures. Banks also owned related institutions such as building societies and finance houses, which led to weak credit risk management due to poor stewardship (directors) and management Central Bank Annual Report, 1988/89).

This era emphasized on cash ratio as a measure of liquidity, statutory capital and profitability as a measure of financial performance. Capital limits and liquidity ratios were set by the central bank while earnings were estimated using the normal accounting procedures. Central bank during this era emphasized on capital adequacy, earnings and liquidity (CEL) during on-sight

and off-sight inspection. The returns used by the Central Bank for off-site inspection were not submitted by some banks making it impossible to complete off-site and on-site inspection by the central bank (Central Bank Annual Supervision, 1999). CAMPARI focused on assessing the borrower and was supposed to determine whether a loan is good or bad, recoverable or not recoverable. The acronym stands for character (says a lot about the probability of a loan arrangement going sour), ability (borrower's ability in managing financial affairs), margin (the bank should obtain a reasonable return in view of the risks taken), purpose (should be accepted to the bank), amount (the potential customer should justify the amount requested), repayment (lender should ensure the source of repayment is clear) and insurance (security is necessary in case the repayment proposals fails to materialize (Kiyai, 2003).

Lenient credit risk management era which was practiced in the 1980s was characterized by financial institutions in which government had invested. There was massive registration of financial institutions, laxity in credit risk assessment, review of the banking act and credit was extended to parastatals which were linked to some of the financial institutions. Government owned financial institutions practiced directed lending and capital ratios and liquidity ratios were to assess the soundness of the financial institutions. Central bank on-site inspection was carried out using Capital adequacy, Earnings and liquidity ratios (CEL). Due to weaknesses in the financial institutions, mergers were recommended, financial institutions were placed under statutory management and quite a number were closed. Inadequate supervision by the central bank due to limited information to enable on-site and off-site inspection was the norm, there was limited institutional capacity, inappropriate credit policies existed, commercial banks practiced directed lending, poor loan underwriting, loan defaults, increase in credit extended to borrowers including government related institutions and bank failures (Central Bank Annual Report 1987/88). These weaknesses in lending practices triggered merger of ten NBFIs and one commercial bank to form the Consolidated Bank of Kenya. Profits were expected to be high but volatile.

3.1.3 Stringent Credit Risk Management (The 1990's)

In this era there was the policy review including the amendment of banking act in view of failures in the previous era. There were also changes in the personnel at the Central Bank of

Kenya, revision of the minimum capital requirements including coming up with the leverage ratio, prudential guidelines were introduced, corporate governance was improved and there was the operationalisation of the Deposit Protection Fund (DPF) and Kenya School of Monetary Studies (KSMS) which were started in 1986 (1993/94). Basle 1 was put in practice when 25 principles were introduced, strategic and non-strategic parastatals were identified and reforms in the public sector as well as privatization of government owned enterprises were seriously embarked on. Further, borrowing by parastatals lessened, interest rates were liberalized which gave banks leeway to charge interest rates which did not threaten their survival and high profits were recorded by banks due to lack of provision for bad loans (Central Bank Annual Supervision Report, 1995).

Stringent credit risk management which was practiced in the 1990's was a period that triggered the review of the banking act, identification of strategic and non strategic parastatals and identification of loss making government enterprises including financial institutions which were subsequently privatized (Central Bank Annual Report, 1990). This was an era of excess money supply and high interest rates. The banking act was reviewed resulting to merger of various banking institutions and placement of others under statutory management.

Capital and liquidity ratios were reviewed, policies of the central bank were enhanced and Open Market Operations (OMO) tool for controlling interest rates was introduced in the financial market following financial liberalisation. Use of on-site and off-site inspection using Capital adequacy, asset quality, earnings and liquidity (CAEL) for monitoring performance of financial institutions was emphasized. There was the review of capital and liquidity levels, introduction of prudential guidelines by the central bank, introduction of the concept of vetting of directors to ensure they are 'fit and proper' and introduction of the global capital standards and liquidity ratios. Profit levels assessment criteria as excellent, strong, satisfactory, weak or unsatisfactory were used to assess performance of commercial banks, there was provisioning of nonperforming loans, and reckless lending was controlled (Central Bank Annual Supervision Report, 1996). Poor credit assessment, undercapitalization of banks, interest rate liberalization, reduced donor support, Multiparty politics, release of excess money in the market, poor performance of institutions, institutional failures, loan defaults, review of capital ratio, enhancement of central

bank inspection, review of the banking act, introduction of Basle accord, operationalisation of Kenya School of Monetary studies (KSMS) and Deposit Protection Fund (DPF) to ensure the institutions were functional, conversion of NBFIs to commercial banks and expansion of banks branch networks lead to uncertain and volatile profits. Credit risk in this era was thus expected to be relatively high (Central Bank Annual Supervision Report, 1999).

3.1.4 Customized Global Credit Risk Management Standards (The Year 2000's)

This was the era of Basle II and credit risk guidelines were controlled at the global level. The country experience negative economic growth at the beginning of this era. In addition there was the introduction of the multiparty system of government and change of the Presidency. The minimum capital requirement was increased and management continued to be assessed to ensure they are 'fit and proper'. Bad debts continued to be provided for reducing the balance of non-performing loans and reduced profits. Some institutions merged to increase their capital base so that they could remain within the minimum capital requirements and capital revised to conform with the Basle 1 accord. Inflation increased from 5% to 8.3%, CAMPARI was emphasized on for borrower analysis and directors were vetted to ensure they were 'fit and proper'. The Monetary Policy Committee (MPC) was formed in 2004. In 2008/09, two banks which are Sharia compliant were registered (Central Bank Annual Report, 2009).

The model emphasized in this era by the Central Bank for on-site and off-site inspection was CAMEL. Capital adequacy was enhanced as a number of institutions injected additional capital and others merged to boost the capital base. Additionally, capital was redefined to conform with Basle requirements and minimum capital increased from Ksh200million to Ksh500 million for commercial banks and Ksh150million to Ksh375 million for NBFIs. These were to be gradually achievable by 2005 and further adjusted to Ksh1 billion achievable by 2012. An additional variable management was introduced recognizing the importance of management capability in running financial institutions (Central Bank Annual Supervision Report, 2005). Vetting of the Board of Directors and senior management to ensure they were fit and proper was implemented in financial institutions. CAMPPARI was applied during this era for credit analysis and provisioning of bad loans became a reality. Asset quality improved as bad debts were provided for. This led to relatively lower profits but a more stable financial system. Profitability of banks

improved and non-performing loans decreased by the year 2006 due to enhanced corporate governance and provisioning of bad debts. Establishment of credit bureaus received emphasis from the central bank to enable sharing of information on non-performing loans and one credit rating bureau was established in 2008 (Central Bank Annual Report, 2008). Increased use of CAMPARI by commercial banks to assess borrowers was expected to lead to a further reduction in non-performing loans. Borrowers were to be subjected to stringent credit analysis system to analyze their character, ability to repay their loans, margin of the venture that the loan was to finance, purpose for the loan emphasizing on viability, amount of the loan relative to the venture, repayments and insurance to caution risk defaulting on the loan (Checkley and Dickinson, 2001). Liquidity continued to be assessed using statutory standards and cash ratio (Central Bank Annual Report, 2005).

For effective credit risk management, both the board and management are required to set up policies and procedures, which at a minimum should address parameters for composition and spread of credit portfolio. Globalization and deregulation called for sound management systems capable of early identification, measurement, monitoring and controlling the various banking risks, particularly credit risk. Banks require risk management processes that cover four critical aspects of management oversight, policies, measurement and internal controls (Central Bank Annual Report, 2006). Parameters to identify risk composition to avoid overconcentration of risk, credit approval limits, collateral and underwriting standards, exposure limits, non-performing loan limits, qualified staff and availability were identified (Laker, 2007; McDonough, 1998).

Banking sector remained stable in 2003 and reported improved performance resulting from lower bad debts charge, reduced operation costs and significant inflow of foreign deposits into local banking system. 2 institutions were placed under statutory management and one under liquidation in 2002/03. Central Bank Act was amended to allow formation of a Monetary Policy Committee (MPC) in 2004 and transferring powers from the Minister to Central Bank, to develop risk management guidelines to cover the most common types of risk and to vet BOD, senior management and significant shareholders. The banking sector remained stable in 2005/06 but 2 financial institutions; Daima Bank Ltd and Prudential Building Society, were closed and

assets and liabilities of 2 others were acquired. Commercial Bank of Africa acquired the assets and liabilities of First American Bank Ltd and East Africa Building Society (Central Bank Annual Supervision Report, 2006).

In 2006, banking sector remained stable while financial performance improved significantly as evidenced by impressive growth in institutions balance sheets and pre-tax profits. One bank was put under statutory management following heightened adverse publicity related to its alleged malpractices. Non-performing loans decreased due to enhanced corporate governance and risk management as well as enforcement of strict provisioning by the central bank. Establishment of credit bureaus continued to receive emphasis from the central bank to encourage sharing of information (Central Bank Annual Supervision Report, 2006). In 2007, non-performing loans decreased attributable to government of Kenya reduction of non-performing loans in one leading bank, recoveries and write-offs in a number of other banking institutions. 2 commercial banks were licensed that are Sharia compliant that is the First Community Bank and Gulf Bank (Central Bank Annual Report, 2008).

3.2 Amount of Credit and Level of Nonperforming Loans

Credit risk which refers to identification, analysis and assessment, monitoring and control of credit has direct implications on the amount of loans and advances extended to customers as well as on the level of nonperforming loans. Amount of credit as measured by loan and advances extended to customers and nonperforming loans are used as proxies for credit risk. Amount of credit was expressed as a proportion of total assets to control for the size of the banks. Nonperforming loans was expressed as a proportion of the total loans extended by the commercial banks. Analysis focused on the banking sector as well as banks categorized in their groups. Commercial banks in Kenya are categorized in three tier groups on the basis of the value of bank assets. Tier group one are banks with an asset base of more than Ksh40 billion, tier group two are commercial banks with asset base between Ksh40 billion and Ksh10 billion while tier group three are banks with asset base of less than Ksh10 billion. According to the 2009 Banking Survey, there are eleven commercial banks in tier group one, eleven commercial banks in tier group two and twenty on commercial banks in tier group three comprising to a total of forty three commercial banks.

Table 1: Tier Groups of Commercial Banks

Tier Group	Total Assets (billions)	Percentage of Total Assets
One	948.814	78%
Two	172.616	14%
One	93	8%
Total Assets	1214.43	100%

Source: Research Data

In terms of total assets in the banking sector, commercial banks in tier group one constitutes 78% of total commercial banks, tier group two constitutes 14% of the total banking sector while tier three commercial banks constitutes 8% of the total commercial banks.

Table 2: Average Assets by Tier Groups for 2008

Tier Group	Average Assets
One	86.25582
Two	15.69236
Three	4.411667
Average For All Banks	49.37933

Source: Research Data

The average value of assets in tier one category averaged Ksh86.25582, tier group two averaged Ksh15.69236 billion while banks in tier group three averaged Ksh4.411667 billion in 2008 (Also see Appendix I). The average assets for all commercial banks was Ksh49.37933 in 2008, Ksh22.22574 billion in 2007, Ksh16.95755 billion in 2006, Ksh15.19133 billion in 2005 and Ksh13.5056 billion in 2004.

Credit extended by commercial banks averaged Ksh16.2087 in 2008, Ksh15.44379 in 2007, Ksh14.76513 in 2006, Ksh12.93275 in 2005 and Ksh10.5044 in 2004. Total loans and advances to total assets, which is a measure of level of credit averaged 64% for all commercial banks, 67.4% in 2007, 144.2% in 2006, 129.7% in 2005 and 115% in 2004. The observation is that the

level of credit was high in the early years of the implementation of Basle II but decreased significantly in 2007 and 2008, probably when the Basle II was implemented by commercial banks. Notably Basle II came into being in 2004 but the impact of this Accord was not immediate explaining why there was a time lag in reduction of the amount of credit. When the amount of credit exceeds the level a bank assets as in the case of 2004, 2005 and 2006, banks are exposed to more risk of the credit ending up being nonperforming.

The nonperforming loans as a proportion of total loans which is another proxy for credit risk averaged 5.08% in 2008, 13.5% in 2007, stood at 14.3% in 2006, and further averaged 16.07% in 2005 and 19.64% in 2004. Notably, the level of nonperforming loans given by nonperforming loans to total loans decreased during the period 2004 to 2008. The requirement by the Basle II might have enabled commercial banks to control their level of nonperforming loans thus reducing banks credit risk.

3.3 Profitability of the Banks

Profitability of the 43 commercial banks that were in operations in 2008 averaged Ksh1027.628 billion, while of the 42 banks in 2007 averaged Ksh818.19 billion as the First Community Bank started its operations in 2008. The operations of the 40 commercial banks that were in operation in 2006, 2005 and 2004 resulted to average profits of Ksh644.3 billion, Ksh465.75 billion and Ksh351.15 billion respectively. Net profits as a proportion of total assets for the banks averaged 0.0225 in 2008, 0.02434 in 2007, 0.02444 in 2006, 0.0182 in 2005 and 0.0132 in 2004. Thus on average the profits of the banking industry increased during the period 2004 to 2008. Notably Gulf Africa Bank started its operations in 2007 while Family Bank converted to a commercial bank in 2007. The average figures for each year takes into account the number of institutions that were in operation in each of the years.

3.4 Profitability, Level of Credit and Nonperforming Loans

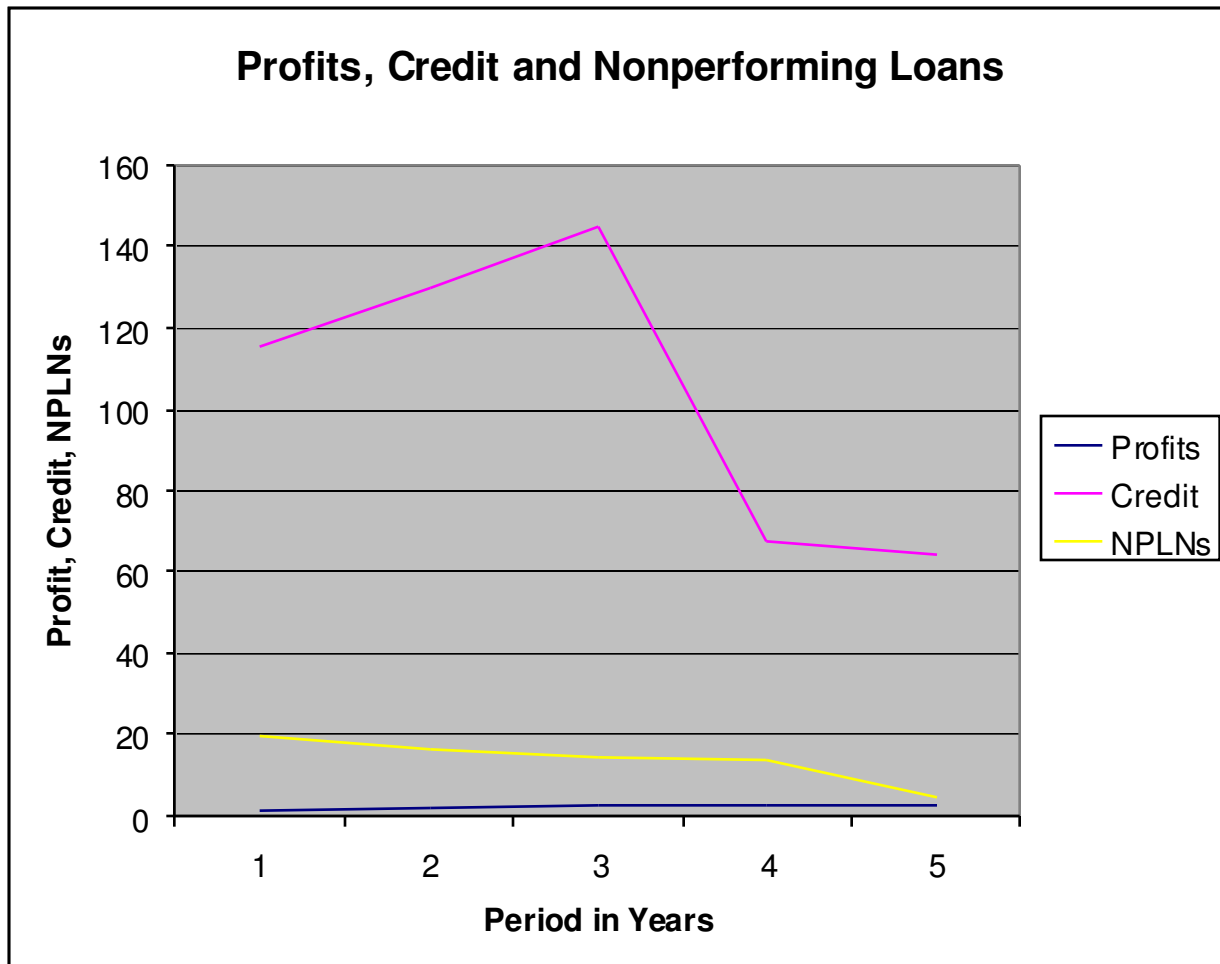
Table 3: Average Assets, Average Amount of Credit, Average Nonperforming Loans and Average Profits for the Banks

Average for All Banks	2008	2007	2006	2005	2004
Amount of Credit/Total Assets	0.64	0.674	1.442	1.297	1.15
Nonperforming loans/Total Loans	0.0508	0.135	0.143	0.1607	0.1964
Profits/Total Assets	0.0225	0.02434	0.02444	0.0182	0.0132

Source: Research Data

From the table above, the level of credit extended decreased during the period and so did the level of nonperforming loans. However profitability of the commercial banks fluctuated during the period but on average increased marginally during the period 2004 to 2008.

3.5 The Relationship Between Profits, Amount of Credit and Nonperforming Loans



Source: Research Data

The figure above indicates that profits of the banks were generally low during the period 2004 to 2008 while the level of nonperforming loans decreased. The amount of credit extended to customers was relatively high but assumed a downward trend during the period. Whereas the level of credit and profits were relatively low and stable, the amount of credit was high and relatively volatile.

3.6 The Regression Model

The regression equation was of the form $Y = a + b_1X_1 + b_2X_2$

Where; Y is the profits as measured by Net Profits/Total Assets (ROTA)

X1 is the amount of credit as measured by Loans and Advances/Total assets

X2 is level of Nonperforming Loans as measured using Nonperforming Loans/Total Loans
 B1 and b2 are coefficients while a is the constant term.

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	NPLNs, credit(a)	.	Enter

a All requested variables entered.
 b Dependent Variable: profits

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.676	.831		3.219	.084
	credit	.003	.009	.192	.266	.815
	NPLNs	-.065	.064	-.727	-1.009	.419

a Dependent Variable: profits

Source: Research Data

The regression model arising from the above data is of the form;

$$Y = 2.676 + 0.003X1 - 0.065X2$$

The model means that profits that are not dependent on the amount of credit and nonperforming loans amounts to Ks2.676billion. Thus even if no credit is extended commercial banks will still make some profits. The coefficient of credit extended is 0.003 indicating that the amount of credit extended contributes positively to profits but marginally. Additionally, as the level of nonperforming loans increase, profits decrease. There is therefore a positive relationship between the amount of credit extended and the amount of profits while there is a negative relationship between the level of nonperforming loans and profits. The t-test indicates that the profits that

do not depend on credit and nonperforming loans is significant. The test of significance indicates that the coefficient of 0.003 in the case of credit and the coefficient of -0.65 in the case of nonperforming loans are due to chance. This means that there is no association between profits, amount of credit and the level of nonperforming loans. Ordinarily, commercial banks should focus on other factors other than the nonperforming loans if their objective is to predict profits.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622(a)	.387	-.226	.53078

a Predictors: (Constant), NPLNs, credit

Source: Research Data

The R-Square indicates that only 38.7% of the profits are explained by amount of credit and the level of nonperforming loans. The adjusted R-Square of -0.226 however indicates that amount of credit and nonperforming loans do not explain the level of profits made by commercial banks. This means that there is no relationship between the amount of credit, nonperforming loans and the amount of profits.

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.356	2	.178	.631	.613(a)
	Residual	.563	2	.282		
	Total	.919	4			

a Predictors: (Constant), NPLNs, credit

b Dependent Variable: profits

Source: Research Data

ANOVA $F_{2,2}$ statistic of 0.631 is significant with a P-value > 0.05 . The model does not establish a relationship between profits, amount of credit and the level of nonperforming loans.

4.0 SUMMARY OF FINDINGS AND CONCLUSIONS

The findings reveal that the level of credit was high in the early years of the implementation of Basle II but decreased significantly in 2007 and 2008, probably when the Basle II was implemented by commercial banks.

Notably, the level of nonperforming loans given by nonperforming loans to total loans decreased during the period 2004 to 2008. The requirement by the Basle II might have enabled commercial banks to control their level of nonperforming loans thus reducing banks credit risk.

Thus on average the profits of the banking industry increased during the period 2004 to 2008.

However profitability of the commercial banks fluctuated during the period but on average increased marginally during the period 2004 to 2008. The profits were generally low during the period of study. The amount of credit extended to customers was relatively high but assumed a downward trend during the period. Whereas the level of credit and profits were relatively low and stable, the amount of credit was high and relatively volatile.

The regression results indicate that there is no relationship between profits, amount of credit and the level of nonperforming loans.

The R-Square indicates that only 38.7% of the profits are explained by amount of credit and the level of nonperforming loans. The adjusted R-Square of -0.226 however indicates that amount of credit and nonperforming loans donot explain the level of profits made by commercial banks.

This means that there is no relationship between the amount of credit, nonperforming loans and the amount of profits. ANOVA $F_{2,2}$ statistic of 0.631 is significant with a P-value > 0.05 . The model doesnot establish a relationship between profits, amount of credit and the level of nonperforming loans.

The findings reveal that the bulk of the profits of commercial banks is not influenced by the amount of credit and nonperforming loans suggesting that other variables other than credit and nonperforming loans impact on profits. Commercial banks that are keen on making high profits should concentrate on other factors other than focusing more on amount of credit and nonperforming loans.

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Interest rate risk, risk management, commercial banks in Kenya, Basel capital accord, income gap. analysis. I. Introduction. 1.1. Background Over the past few years both banking supervisors and researchers have nearly exclusively focused their attention on banks' credit and operational risk, and most recently, considerable attention is now being turned on interest rate risk. Thus, while fluctuations in net interest margins could be an important source of uncertainty in bank profitability and could surely have adverse effects for particular institutions changes in interest rates seem unlikely to undermine sharply the health of the banking sector through their effects on net interest income. Proper credit risk management is an important indicator for profitability of banks in the changing financial environment. With current research, author was able to find interconnection between bank profitability and defaults in the Ecobank group in the period from 2013 to 2017. On the basis of the obtained results, the author concludes that default has had a negative effect on the capital and credit risks, as measured according to ROA, while according to ROE, negative credit risk. The Impact of credit risk management on profitability of commercial banks: A study of Europe, Umea School of Business and Economics. International Journal of Business and Social Research, 2012. In proceedings {Kithinji 2010 Credit RM, title={Credit risk management and profitability of Commercial banks in Kenya}, author={A. Kithinji. (Haneef et al., 2010. With effective credit risk management, banks enhance their viability and profitability; and this in turn results in systemic stability and efficient allocation of capital in an economy (Psillaki, Tsolas, and Margaritis, 2010). Kithinji, (2010) observed that increase in bank credit risk eventually results in liquidity and solvency problems. 4.2 Empirical Literature Review Kolapo et al (2012) carried out a research on credit risk and commercial banks performance in Nigeria and established that a 100% increase in non-performing loans reduces profitability as measured by return of assets by 6.5 %. Kithinji (2010) assessed the effect of credit risk management on the profitability of commercial banks in Kenya and found that banks' profitability is not affected by credit risk management. The study yields fourteen benefits that commercial banks in Kenya enjoy from engaging in SME lending. Crediting problems of the enterprises of small and medium business by Ukrainian banks. 2017 / Ivaschenko A.H., Belyukov Ye.A. Perceived profitability is cited as a major driver of bank involvement with the SME segment [Calice, Chando, Sekioua, 2012; De la Torre, Martinez Peria, Schmukler, 2010] which concurs with the earlier findings of S. Bharath et al. [Bharath et al., 2007]. Calice et al. More recently, A. Fredriksson and A. Moro [Fredriksson, Moro, 2014] analyze 4285 firm-year observations from Finnish banks and find that the length and scope of a relationship, and the loan dimensions, are important in explaining the risk-adjusted profitability of banks.