

Full Length Research Paper

The effects of interest rate spread on the level of non-performing assets: A case of commercial banks in Kenya.

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Abstract

This study sought to establish the effects of interest rate spread on the level of Non Performing Assets in commercial banks in Kenya. This study adopted a descriptive research design on a sample of all commercial banks in Kenya operating by 2008 which are 43 in number. The study used questionnaires to collect data from primary data sources and secondary data, collected from Bank Supervision Report, to augment the primary data findings. The study used both quantitative and qualitative techniques in data analysis to the relationship between the interest rate spread and loan non-performance. The data were presented using graphs, table and pie-Charts. The study concludes that interest rate spread affect performing assets in banks as it increases the cost of loans charged on the borrowers, regulations on interest rates have far reaching effects on assets non-performance, for such regulations determine the interest rate spread in banks and also help mitigate moral hazards incidental to NPAs. Credit risk management technique remotely affects the value of a bank's interest rates spread as interest rates are benchmarked against the associated non-performing assets and non-performing assets is attributable to high cost of loans. The study recommends that commercial banks in Kenya should assess their clients and charge interest rates accordingly as ineffective interest rate policy can increase the level of interest rates and consequently NPAs. They apply stringent regulations on interest rates charged by banks so as to regulate their interest rate spread and enhance periodic/regular credit risk monitoring of their loan portfolios to reduce the level of NPAs.

Keywords: Interest Rate Spread, Non Performing Assets

JEL Classification: G12

1.0 Introduction

1.1 Background

Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institutions or fee paid on borrowed assets (Crowley, 2007). Interest can be thought of as "rent of money". Interest rates are fundamental to a 'capitalist society' and are normally expressed as a percentage rate over the period of one year. Interest rate as a price of money reflects market information regarding expected change in the purchasing power of money or future inflation (Ngugi, 2001).

A non-performing asset (NPA) is the money lent to an individual that does not earn income and full payment of principal and interest is no longer anticipated, principal or interest is 90 days or more delinquent, or the maturity date has passed and payment in full has not been made (Boudriga et al 2009). The issue of non-performing assets has, therefore, gained increasing attentions since the immediate consequence of large amount of NPAs in the banking system is a cause of bank failure.

Financial institutions facilitate mobilization of savings, diversification and pooling of risks and allocation of resources. However, since the receipts for deposits and loans are not synchronized, intermediaries like banks incur certain costs

(Ngugi, 2001). They charge a price for the intermediation services offered under uncertainty, and set the interest rate levels for deposits and loans. The difference between the gross costs of borrowing and the net return on lending defines the intermediary costs (information costs, transaction costs (administration and default costs and operational costs) (Rhyne 2002).

Interest rate spread is defined by market microstructure characteristics of the banking sector and the policy environment (Ngugi, 2001). Risk-averse banks operate with a smaller spread than risk-neutral banks since risk aversion raises the bank's optimal interest rate and reduces the amount of credit supplied. Actual spread, which incorporates the pure spread, is in addition influenced by macroeconomic variables including monetary and fiscal policy activities (Emmanuelle, 2003).

Depending on the market structure and risk management, the banking firm is assumed to maximize either the expected utility of profits or the expected profits. And, depending on the assumed market structure, the interest spread components vary. For example, assuming a competitive deposit rate and market power in the loan market, the interest rate spread is traced using the variations in loan rate. But with market power in both

markets, the interest spread is defined as the difference between the lending rate and the deposit rate.

The magnitude of interest rate spread, however, varies across the world. It is inverse to the degree of efficiency of the financial sector, which is an offshoot of a competitive environment. The nature and efficiency of the financial sectors have been found to be the major reasons behind differences in spread in countries across the world. In economies with weak financial sectors, the intermediation costs which are involved in deposit mobilisation and channeling them into productive uses, are much larger (Jayaraman and Sharma, 2003).

Independent studies (Chand, 2002 and Asian Development Bank, 2001), have listed the several reasons for high interest rate spread. These are lack of adequate competition, scale diseconomies due to small size of markets, high fixed and operating costs, high transportation costs of funds due to expensive telecommunications, existence of regulatory controls and perceived market risks. They further state that the factors mentioned above lead to high intermediation costs, which result in high spread. Specifically, these studies have identified one of the most obvious costs, which is associated with the ability to enforce debt contracts. Small borrowers with no property rights have no collateral to offer. As such, they are perceived as high risk borrowers. Because of high transaction costs involved, such borrowers are charged punitive rates of interest. Further, Chand (2002) singles out issues of governance. The latter encompasses maintenance of law and order and provision of basic transport and social infrastructure, all impinging on security, a lack of which has been found to be a cause for high transaction costs resulting in large intermediation costs. When there is high intermediation cost, reflected in the high interest rate spread, the borrower may be unable to repay his/her loan owing to the cost of such borrowings. This leads to a high risk of loan default hence non-performance (Chand, 2002).

According to (McNulty et al 2001), controlling NPAs is very important for both the performance of an individual bank and the economy's financial environment. Due to the nature of their business, commercial banks expose themselves to the risks of default from borrowers. Prudent credit risk assessment and creation of adequate provisions for bad and doubtful debts can cushion the banks risk. However, when the level of non-performing assets (NPAs) is very high, the provisions are not adequate protection (Waweru and Kalani, 2009). The occurrence of banking crises has often been associated with a massive accumulation of nonperforming assets which can account for a sizable share of total assets of insolvent banks and financial institutions. Therefore, the determinants of loan defaults should be established so as to reduce the level of non-performing assets.

1.2 Commercial Banks in Kenya and Financial Crises

In Kenya, the Banking Sector is composed of the Central Bank of Kenya, as the regulatory authority and the regulated; Commercial Banks, Non-Bank Financial Institutions and Forex Bureaus (CBK, 2009). As at 31st December 2008 the banking sector comprised 45 institutions, 43 of which were commercial banks and 2 mortgage finance companies, and 120 Foreign Exchange Bureaus. Commercial banks and mortgage finance companies are licensed and regulated under the Banking Act, Cap 488 and Prudential Regulations issued there under. Foreign

Exchange Bureaus are licensed and regulated under the Central Bank of Kenya (CBK) Act, Cap 491 and Foreign Exchange Bureaus Guidelines issued there under. Out of the 43 commercial bank institutions, 33 were locally owned and 12 were foreign owned. The locally owned financial institutions comprised 3 banks with significant government shareholding and 28 privately owned commercial banks. The foreign owned financial institutions comprised 8 locally incorporated foreign banks and 4 branches of foreign incorporated banks. Of the 42 private banking institutions in the sector, 71% are locally owned and the remaining 29% are foreign owned (CBK, 2009).

It is accepted that the quantity or percentage of non-performing assets (NPAs) is often associated with bank failures and financial crises in both developing and developed countries. (Caprio and Klingebiel, 2002). In fact, there is abundant evidence that the financial/banking crises in East Asia and Sub-Saharan African countries were preceded by high non-performing assets. For instance, in Indonesia where over 60 banks collapsed during the financial crisis, nonperforming assets represented about 75% of total asset portfolios (Caprio and Klingebiel, 2002). The banking crisis which affected a large number of Sub-Saharan African countries in the 1990s was also accompanied by a rapid accumulation of nonperforming assets (Caprio and Klingebiel, 2002).

In spite of this apparent association between banking crises and nonperforming assets, the literature on the causes on non-performing assets has focused on the macroeconomic determinants and less on the influence of interest rate spread (Fofack, 2005). Kenya's experience with the financial reform process shows a widening interest rate spread following interest rate liberalization. In addition, in the 1990s financial institutions witnessed declining profitability, non-performing assets and distress borrowing which hugely affected the commercial banks profitability (Ngugi, 2001).

When left unsolved, nonperforming assets can compound into financial crisis, the moment these assets exceed bank capital in a relatively large number of banks. In Sub-Saharan Africa, of which Kenya is a case, the probability of a banking crisis occurring may be even more important because non-performing asset-related risks are compounded by the structure of the banking system which is dominated by a few large banks (Fofack, 2005). However, despite the implications of nonperforming assets for banking crisis, for investment and economic growth, and for anticipating future banking and financial crises, very few studies have been done on the effect of interest rate spread on the level of non-performing assets in Sub-Saharan Africa (Caprio and Klingebiel, 2002).

(Daumont et al 2004) found the accumulation of nonperforming assets to be attributable to economic downturns and macroeconomic volatility, terms of trade deterioration, high interest rates, excessive reliance on overly high-priced interbank borrowings, insider lending and moral hazard. Ngugi (2001) analyzing interest rate in Kenya found a widening interest rate spread following interest rate liberalization characterized by high implicit costs with tight monetary policy achieved through increased reserve and cash ratios and declining non-performing assets. According to Kithinji and Waweru (2007), that banking problems is back-dated as early as 1986 culminating in major bank failures (37 failed banks as

at 1998) following the crises of 1986 to 1989, 1993/1994 and 1998; they attributed these crises to NPAs which is due to the interest rate spread.

1.3 Alternative Explanation on Interest Rate Spread

Ngugi (2001) analyzed the interest rates spread in Kenya from 1970 to 1999 and found that interest rate spread increased because of yet-to-be gained efficiency and high intermediation costs. Increase in spread in the post-liberalization period was attributed to the failure to meet the prerequisites for successful financial reforms, the lag in adopting indirect monetary policy tools and reforming the legal system and banks' efforts to maintain threatened profit margins from increasing credit risk as the proportion of non-performing assets. She attributed the high non-performing assets to poor business environment and distress borrowing, owing to the lack of alternative sourcing for credit when banks increased the lending rate, and the weak legal system in enforcement of financial contracts. According to her findings, fiscal policy actions saw an increase in treasury bill rates and high inflationary pressure that called for tightening of monetary policy.

As a result, banks increased their lending rates but were reluctant to reduce the lending rate when the treasury bill rate came down because of the declining income from assets. They responded by reducing the deposit rate, thus maintaining a wider margin as they left the lending rate at a higher level. Postulating an error correction model and using monthly data for the study period, Ngugi (2001) found that for Kenya, rising inflation resulting from expansionary fiscal policy, tightening of monetary policy, yet-to-be realized efficiency of banks and high intermediation costs explained interest rate spreads.

Maudos et al (2004) analyzed interest margins in the principal European banking countries over the period 1993–2000 by considering banks as utility maximizers bearing operating costs. They found that factors that explain interest margins are the competitive condition of the market, interest rate risk, credit risk, operating expenses, and bank risk aversion among others. Elsewhere Angbazo (1997) tested the hypothesis that banks with more risky assets and higher interest rate risk select lending and deposit rates so as to earn wider net interest margins. He used United States bank data from 1989–93 and found evidence in support of the hypothesis.

Keeton and Morris (1987) undertook a study on why banks' loan losses differ. They examined the losses by 2,470 insured commercial banks in the United States (US) over the 1979-85. Using NPAs net of charge-offs as the primary measure of loan losses, Keeton and Morris (1987) shows that local economic conditions along with the poor performance of certain sectors explain the variation in loan losses recorded by the banks. The study also reports that commercial banks with greater risk appetite tend to record higher losses.

2.0 Attributes of Non Performing Assets

2.1 Regulations

Regulation in the financial sector is aimed at reducing imprudent actions of banks with regards to charging high interest rates, insider lending and reducing asset defaults. The central banks have achieved this through interest rate ceilings and other monetary policies. Demirguc-Kunt and Huizinga (1997) found that better contract enforcement, efficiency of the

legal system and lack of corruption are associated with lower realized interest margins and asset non-performance. This is because they reduce the default risk attached to the bank lending rate. However, it is noted that in developing countries regulations tend to be on paper but in practice are not enforced consistently and effectively. Thus, leading to default on loans lent to clients.

Globalized financial markets, populated by many countries with undeveloped financial structures, poor regulatory frameworks, inadequate supervision, and a history of cronyism, raised the prospect of the transmission of more frequent local failures to the international financial system. It also made patently clear that lower regulation countries, like Japan, could engage in unfair competition with higher regulation countries (Fратиanni and Pattison 2002). The Basel Capital Accord of 1988 (Basel I) was born out of these concerns. It was an accord on minimum capital requirements computed by assigning arbitrary weights to different bank asset categories. The mechanistic weighting structure gave an impetus to banks to place off balance sheets assets whose regulatory capital exceeded economic capital, and vice versa. Furthermore, Basel I ignored other important aspects of risk and gave no role to market discipline.

While subsidized rates can help increase loan accessibility, it tends to favor the wealthy and politically connected and borrowers who might not take the loans seriously enough (Muraki, et al., 1997: 36). Borrowers may take loans less seriously since the rate is lower than the market rate and money may not be used for the best investment available in the market. However, lower interest rates may be helpful for small borrowers who may not know many high return investment opportunities.

According to a World Bank report (1994) in Uganda, owing to lack of proper regulations the country's banking industry was described as extremely weak, with huge non-performing assets and some banks teetering on the verge of collapse. Mukalazi (1999) notes that reeling from years of economic mismanagement and political interference, Uganda's banking industry posted huge losses in the early 1990s. To help address credit risk management in Ugandan banks, the government has introduced a statute that deals with several issues

Many of the bad debts were attributable to moral hazard: the adverse incentives on bank owners to adopt imprudent lending strategies, in particular insider lending and lending at high interest rates to borrowers in the most risky segments of the credit markets. According to Brown (1998), the single biggest contributor to the bad loans of many of the failed local banks was insider lending. In at least half of the bank failures, insider loans accounted for a substantial proportion of the bad debts. Most of the larger local bank failures in Kenya, such as the Continental Bank, Trade Bank and Pan African Bank, involved extensive insider lending, often to politicians.

2.2 Cost of assets

Interest rate spread is a measure of profitability between the cost of short term borrowing and the return on long term lending. These costs are normally transferred to borrowers who might, with time, be in a position of not repaying the loan. World Bank policy research working paper on Non-performing

Assets in Sub-Saharan Africa revealed that bad assets are caused by adverse economic shocks coupled with high cost of capital and low interest margins (Fofack, 2005).

Goldstein and Turner (1996) stated that “the accumulation of non-performing assets is generally attributable to a number of factors, including economic downturns and macroeconomic volatility, terms of trade deterioration, high interest rate, cost of assets, insider lending and moral hazard”.

2.3 Credit risk

Credit risk is the risk of loss due to a debtor's non-payment of a asset or other line of credit (either the principal or interest (coupon) or both). The default events include a delay in repayments, restructuring of borrower repayments, and bankruptcy. Interest rates affect credit risk since the borrowers might not be keen to pay cost of funding/credit or might find such assets expensive in the future. Low interest rates encourage *ex-ante* risk-taking (Kashyap and Stein, 2000). Banco Central do Brasil (1999) identified credit risk, taxes, and overhead costs as the main determinants of the high *ex-ante* spread in Brazil (more important even than the high level of required reserves, which are nevertheless significant).

2.4 Critical Review

Monetarist economists argued long ago that central bank interest rate rules exacerbate macroeconomic fluctuations, essentially by not allowing the interest rate to respond promptly to shifts in the supply and demand for loans. To support this critique, they pointed to the pro-cyclicality of the money stock. Yet, when there are real shocks and a real business cycle, modern macroeconomic models imply that some pro-cyclicality of money is desirable, to stabilize the price level. A simple interest rate rule illustrates that the monetarist critique can be valid within this model, since the rule exacerbates the response of real activity to real shocks. Other interest rate rules instead limit the macro economy's response to real shocks. But, while these interest rate rules have diverse effects on real activity, there is an important common implication: By smoothing the nominal interest rate in the short run, the rules all lead to increases in the longer-run variability in inflation and nominal interest rates.

2.5 Knowledge Gap

While quite a number of studies have investigated the effect of interest rate spread, most of these studies have been done in developed countries with few being done in developing countries. In Kenya, Ngugi (2001) conducting a study on interest rate spread in Kenya found that commercial banks incorporate charges on intermediation services offered under uncertainty, and set the interest rate levels for deposits and loans.

Other studies done on interest rate spread showed that indicated that potential savers are discouraged due to low returns on deposits and thus limits financing for potential borrowers (Ndung'u and Ngugi, 2000). These implications of banking sector inefficiency have spurred numerous debates in developing countries about the determinants of banking sector interest rate spreads.

Studies have shown that there is a pervasive view amongst some stakeholders that high interest rate spreads are caused by the internal characteristics of the banks themselves, such as

their tendency to maximize profits in an oligopolistic market, while many others argue that the spreads are imposed by the macroeconomic, regulatory and institutional environment in which banks operate (Fofack, 2005). These debates can only be resolved through objective, quantitative analysis of the determinants of banking sector interest rate spreads in developing countries. This study therefore seeks to fill this gap by establishing the links between interest rate spread and the level of NPAs.

3.0 Research Methodology

3.1 Research Design

The descriptive research design was applied. Descriptive research, describes data and characteristics about the population or phenomenon being studied. According to Coopers and Schindler (2004) descriptive studies are more formalized and typically structured with clearly stated hypotheses or investigative questions.

3.2 Target Population

The target population of the study was all the credit officers in all the commercial banks in Kenya. According to 2009 Central Bank of Kenya bank survey, there were 43 commercial banks. The credit officers in the commercial banks acted as units of analysis while all the commercial banks in Kenya were units of observation used by the study in the analysis.

3.3 Data Collection

A questionnaire was the primary tool for collecting data. Target questions were used in the questionnaires which was based on ordinal scale for measurement purpose (where data is ranked in the sense that higher numbers represent higher values) with summated scale as its scaling technique.

The study also used secondary data sources to gather information relevant in reaching at the research objectives. The secondary data collected from the CBK offices on their annual reports on the macro-economic indicators and Kenya National Bureau of Statistics (KNBS) offices. The study's data collection source was justified by the fact that data on NPL in all commercial banks are available in CBK's bank supervision report while the same works hand in hand with KNBS in making such statistics and estimation.

3.4 Data Analysis

Both quantitative and qualitative techniques were used to analyze the data. The data from the questionnaires were coded and the response on each item put into specific main themes. The data obtained from the research instruments were analyzed using Statistical Package for Social Science (SPSS).

Quantitative analysis involved the use of means, relative frequencies, mode, median and standard deviation Kothari (2004). This was used to describe the market data, that is, regulation, credit risk management and cost of loan factors. Interest rate spread variable and non-performing loan variables were cross-tabulated, These processed data were presented in tables, graphs and explanation given in prose. Qualitative data obtained from the open-ended questionnaire questions were analyzed using content analysis and the data presented in prose (Mugenda and Mugenda, 2003).

4.0 Findings

4.1 Summary of CBK Statistics

The prevailing margin between deposit-lending rates, the interest rate spreads (IRS) in an economy has important implications for the growth and development of such economy, as numerous authors suggest, a critical link between the efficiency of bank intermediation and economic growth. Quaden (2004), for example, argues that a more efficient banking system benefits the real economy by allowing 'higher expected returns for savers with a financial surplus, and lower borrowing costs for investing in new projects that need external finance.

Banks are exposed to credit risk due to information asymmetry. Banks do not know *ex ante* the proportion of loans that will perform and even when they carry out appraisals, credit losses are not fully eliminated. To cover credit risk, banks charge a premium whose size depends on the bank credit policy, interest on alternative assets, amount borrowed, type of client and size of collateral. These increases the effective rates paid by borrowers and reduces the demand for loans.

According to table 1, the maximum aggregate loan advances for the study period approximated 670 billion while the minimum amount was 417 billion. The maximum gross NPA was 112 billion while the minimum annual value was 57 billion. Figure 1 presents a trendline showing clearly the interaction between gross loan advanced by the commercial banks in Kenya and the consequent level of non-performing assets.

4.1.2 Interaction between Interest Rate Spread and NPA Ratio

According to table 1, the maximum value of non-performing asset ratio was approximated at 34.85% while the minimum value was 9.23. The maximum interest rate spread value was 25.19% while the minimum value was 12.25%. Figure 1 gives a clear indication of the interaction between -interest rate spread and the NPA ratios.

4.2 Analysis of CBK Reports

4.2.1 Regulations

On regulations, the findings showed that CBK regulates interest rates charged by banks through interest rate ceiling (81.5%). The banks' interest rates policies are enforced by board of directors, managing directors and credit risk management committees. The study also found that the interest rate policies and regulations there-to are relevant in mitigating interest rates, moral hazards and loan defaults.

4.2.2 Cost of loans

On the cost of loans, that different types of loans affect their cost differently, therefore, the type of interest rates adopted by banks influences the non-performing assets. For instance, fixed interest rate was found to contribute more to NPA since the cost interval was found to be high making the borrower pay more at the end of the loan period than he/she should have under floating interest rates as fixed interest rates are loaded upfront (52%). Floating interest rates interrupts borrowers' budget are interrupted hence they are unable to repay loans as planned given the unanticipated interest in business growth, vary throughout the year, interest doubles in case of default (37%). In cognizance of this, the findings showed that majority of the commercial banks adopt both fixed and floating interest

rates (78%). In order to mitigate the cost of loans, most of the banks review the same on either a monthly basis (25.9%) or continuously (22.2%) as a credit risk management.

4.2.3 Credit risk management

On credit risk management, the banks have established mechanism of independent assessment of credit risk management (85%) which is reviewed on a monthly basis in majority of the banks (56%). To enhance credit risk management, the professional requirement for credit risk management office is a mixture of knowledge in accounting, economics, finance and banking (63.7%). The study also established that given the interest rate spread, all banks have monetary and control system aimed at reducing loan defaults. The monetary control systems are reviewed on a monthly basis by the commercial banks (48%). The banks further conduct a credit risk assessment and management that ensures that loan are channeled to intended purposes, loans are allocated to only those who qualify/can repay, loan security/collateral is enough to cover loan, assessment of the character of the loan candidate and there is sufficient margin to cover loan.

The level of gross loans advanced to customers have been on the increase over the years, the level of non-performing assets have been reducing. This trends points to either to either beefed interest rate regulation by the individual bank and CBK or tight credit risk management as the interest rate spread has not reduced over the years in tandem with the reducing NPAs. Taking 2008 for example, it has the lowest NPA ratio though it had the highest loan advance (Ksh670 billion) and the interest rate spread was slightly higher than that of previous years.

5.0 Conclusion and Recommendation

5.1 Conclusions

Interest rate spread affect the non-performing assets in banks as it increases the cost of loans charged on the borrowers. Mode or type of interest rate charged (whether fixed or float) for they all have different dynamics that might affect the borrower's ability to repay credit loaned. Goldstein and Turner (1996) also concluded that accumulation of non-performing assets is attributable to high cost of loans.

Regulations on interest rates have far reaching effects on loan non-performance for such regulations determine the interest rate spread in banks and also help mitigate moral hazards incidental to NPAs. When the regulations are lax or ineffective, the level of non-performing assets increases. In Kenya, banks specific policies and regulations are the responsibility of board of directors, managing directors and credit risk management committees. This concurs with Demirguc-Kunt and Huizinga (1997) finding that stringent regulations enforced by central banks lower realized interest margins (spread) and subsequently loan non-performance.

Credit risk management technique remotely affects the value of a bank's interest rates spread as interest rates are benchmarked against the associated non-performing assets. Credit risk assessment and management ensures that loan are channeled to intended purposes, loans are allocated to only those who qualify/can repay, loan security/collateral is enough to cover loan, assessment of the character of the loan candidate and there is sufficient margin to cover loan. Credit risk

management, therefore, directly influences the level of asset nonperformance in commercial banks.

5.2 Recommendations

Since cost of loans does influence asset non-performance, the study recommends that commercial banks in Kenya should assess their clients and charge interest rates accordingly, as ineffective interest rate policy can increase the level of interest rates and consequently NPA. Given that the type of interest rates charged on loans (fixed and floats) dictates on the ability and flexibility of borrowers to repay loans, the study recommends that commercial banks should have a mixed interest rate policy as each type has its advantage and disadvantage.

The central banks should apply stringent regulations on interest rates charged by banks so as to regulate their interest rate spread. Commercial banks should also apply rigorous policies on loan advances so as loans are awarded to those with ability to repay and mitigate moral hazards such as insider lending and information asymmetry.

Banks should apply efficient and effective credit risk management that will ensure that loans are matched with ability to repay, no or minimal insider lending, loan defaults are projected accordingly and relevant measures taken to minimize the same. The banks should also enhance periodic/regular credit risk monitoring of their loan portfolios to reduce the level of NPA.

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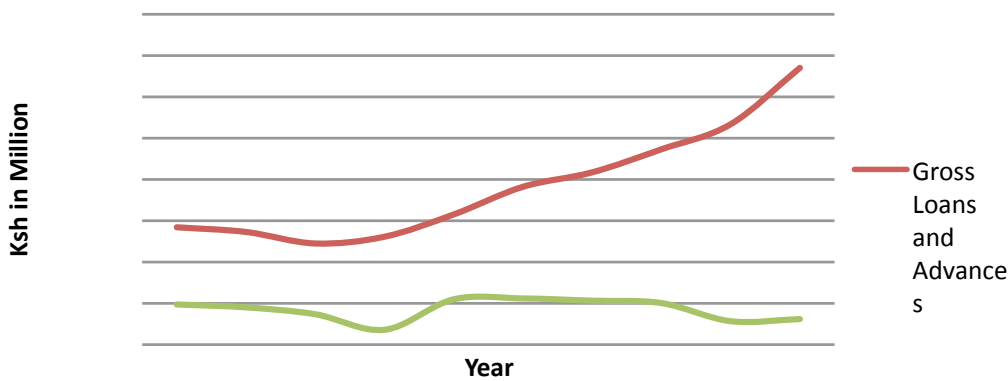
Appendices

Table 1: Aggregate Non-Performing Assets for All Commercial Banks and Interest Rate Spread Data from 1999 to 2008

Year	Gross Loans and Advances in million	Gross NPA and Advances in million	NPA Ratio (%)	Interest Spread	Rate
1999	284238	97299	34.23	25.19	
2000	272890	90240	33.07	19.6	
2001	244976	73617	30.05	19.49	
2002	261418	35934	13.75	18.34	
2003	315321	109898	34.85	13.47	
2004	382290	111889	29.27	12.25	
2005	417300	106500	25.52	13.16	
2006	473100	100700	21.29	13.64	
2007	533800	56800	10.64	13.32	
2008	670372	61869	9.23	14.01	
Maximum	670372	111889	34.85	25.19	
Minimum	417300	56800	9.23	12.25	

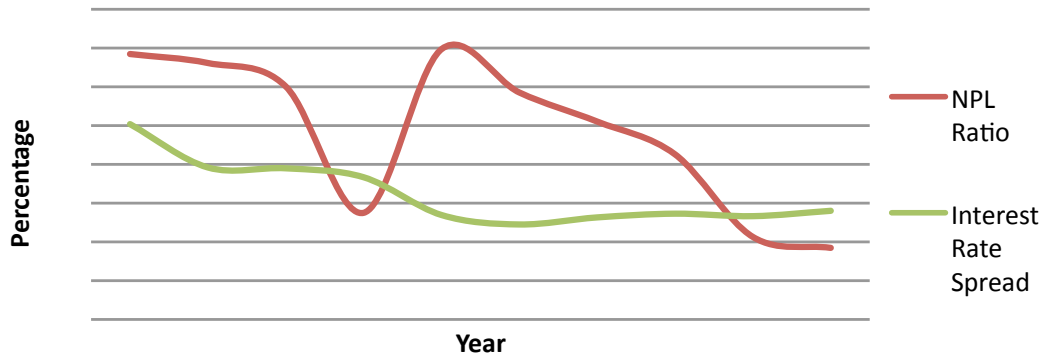
Source: CBK Statistics

Figure 1: NPA and Gross Loan Trendline



Source: CBK Statistics

Figure 2: Interest Rate Spread and NPA Ratio Trendline



Source: CBK Statistics