

Effect of Credit Risk Management on Loan Portfolio Quality of Tier One Commercial Banks in Kenya.

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ABSTRACT: *The objective of the study was to determine the effect of credit risk management on loan portfolio Quality of Tier One commercial banks in Kenya. The study used loan pricing as the independent variable while loan portfolio quality as the dependent variable. The quality of the loan portfolio was measured by use of Non performing Assets (NPA's).The study employed descriptive research design. Five tier one commercial banks in Kenya were analysed. Financial reports for the five banks were analyzed between the years 2009-2013. A sample of 35 was obtained through purposive sampling technique. Data was collected through both primary and secondary methods. Data was analysed by use of descriptive statistics and further by use of regression model run on Statistical Package for Social Sciences (SPSS) version 20. The findings indicated loan pricing had significant positive effect on the level of NPA and it accounted for 57.4% change in level of NPA. It is therefore recommended that financial institutions charge affordable interest rates that will attract more creditors hence increasing their revenue from interest earned. Further studies should carried out on other factors not included in this study such as loan exposure limits.*

Key words: Non performing Asset, loan portfolio quality, credit risk management, loan pricing

I. INTRODUCTION

The banking industry in Kenya has made major contributions towards the growth and development of the Kenyan economy through provision of credit facilities to micro, small and medium term enterprises. The demand for short term and long term lending mainly comes from financial institutions, industrial companies and private institutions. However the probability that a financial institution will incur losses arising from a client not being able to meet his/her contractual obligations to repay a debt in accordance with agreed terms or the potential that a borrower or counter-party will fail to perform on an obligation known as credit risk are encountered by financial institutions and financial intermediaries. Credit risk according to Basel Committee of Banking Supervision BCBS (2001) and Gostineau(1992) is the possibility of losing the outstanding loan partially or totally, due to credit events (default risk).The biggest risk faced by financial institutions and financial intermediaries is the risk of customers or counterparty default.

Effective credit risk management has gained focus in the past years mainly because of the fact that inadequate risk policies are still the main source of serious problems within the banking industry (Iepus2004).Since exposure to credit risk has continued to be a major source of problems for banking worldwide, it is therefore necessary that banks take keen awareness of the need to identify, measure and monitor credit risk. They should also ensure that they hold adequate capital against those risks and they are adequately compensated for the risks incurred. It is with this reason that Basel accord in 1985 came up with the guidelines on sound credit management practices to be employed by banks. The rise in level of NPA's within the financial sector is attributed to laxity in credit risk management processes, procedures and policies, poor credit risk management practices and non-adherence to credit management procedures. Michael et al, (2006) emphasized that NPA in loan portfolio affect operational efficiency which in turn affects the profits of the bank, liquidity position and solvency position of banks. The study therefore aims to determine the effect of credit risk management on the loan portfolio quality of commercial banks in Kenya. What is the effect of credit risk management on loan portfolio quality of commercial banks? How does loan pricing affect quality of the loan portfolio of commercial banks in Kenya?

Currently there are 44 licensed commercial banks in Kenya of which 30 are locally owned and 14 are foreign owned (CBK annual supervision report, 2014). According to banking survey 2014, Banks in Kenya are categorized in four tier groups based on their asset base (balance sheet). Tier I group are banks with an asset base of more than 150 billion while tier II group are those with an asset base of more than 50billion but less than 150billion, Tier III are banks with an asset base of more than 15billion and lastly Tier IV banks comprise of

banks with an Asset base of less than 15 billion. At the end of the year 2012 only five banks fall into the Tier I category which were, Kenya Commercial Bank, Equity Bank, Co-operative bank of Kenya, Standard Chartered Bank and Barclays Bank of Kenya

1.1 Statement of the Problem

There is an ever increasing rise in the level of NPA's in financial institutions in Kenya especially banks under tier I (CBK, 2014). Over the years these financial institutions have come up with credit risk management strategies aimed at reducing risks related to lending, growing the institution's market share and increasing their revenue streams. Financial records show a rise in nonperforming loans of tier I commercial banks over the years. Evidence from the CBK annual report 2014, show a rise in the level of tier I NPA'S over recent years. The years 2013, 2012, 2011, 2010, 2009 saw NPAs ratio change from 4.11, 3.44, 3.42, 5.4 & 7.5 respectively. Despite employing credit risk management strategies responsible for managing risks related to lending, banks are still experiencing a sharp rise in the level of NPA'S in their books. If the nonperforming assets are not brought into control, they have a potential of eroding the asset book and eventually affecting the profitability and general performance of the banks (Tetteh, 2012) Hennie, (2003) states that despite innovations in the financial services sector over the years, credit risk is still the major single cause of bank failures, for the reason that "more than 80 percent of a bank's balance sheet generally relates to this aspect of risk management. A research by Kithinji (2010) has been conducted on credit risk management but the focus of the researches has been on how it affects performance, profitability and survival of banks. Rarely have these researches focused on the specific credit risk management variables that affect quality of the loan portfolio and eventually the profit of the banks in Kenya. Other researchers have also focused on the banking industry as a whole in relation to performance and not giving attention to specific group of banks thus creating a need for further research. This research therefore attempted to investigate the reasons for the continued rise in level of nonperforming assets and to determine which among the variables in the study has a higher effect on the quality of the book.

1.2 Objectives of the study

The general objective is to determine the effect of credit risk management on loan portfolio quality of tier one commercial banks in Kenya. Therefore the specific objective was to determine the effect of loan pricing on loan portfolio quality of Tier One commercial banks in Kenya.

1.3 Research Questions

The study answered the following question: what is the effect of loan pricing on loan portfolio quality of Tier One commercial banks in Kenya?

II. LITERATURE REVIEW

2.1 Theory of information asymmetry

The theory of information asymmetry comes in effect where the borrower has much better information about his financial state than the lender. According to (Auronen, 2003) in Richard (2011), it may be difficult to distinguish between good and bad borrowers, which may result into adverse selection and moral hazards problems. The lender has difficulty knowing whether it is likely the borrower will default. To some extent the lender will try to overcome this by looking at past credit history and evidence of salary. However, this only gives limited information. The theory argues that in the market, the person that possesses more information on a particular item to be transacted (in this case the borrower) is in a position to negotiate appropriate terms for the transaction than the other party (in this case, the lender) (Auronen, 2003) in Richard (2011). The party that knows less about the same specific item to be transacted is therefore in a position of making either right or wrong decision concerning the transaction. Adverse selection and moral hazards have led to significant accumulation of nonperforming loans in banks (Bester, 1994; Beyond and Gobbi, 2003). The theory is relevant in the sense that, if borrowers could provide true and complete information regarding their financial status to the lenders at the time of seeking for credit, then lenders (banks) could be at a better position of making informed credit decisions thereby reducing the risks associated with credit. When credit risk is reduced, level of NPA is reduced hence a good portfolio quality for the financial institutions.

2.2 Credit Risk

Credit risk is the probability that a financial institution will incur losses arising from a client not being able to meet his/her contractual obligations to repay a debt in accordance with agreed terms. According to Duffie and Singleton (2003), credit risk can be defined as the risk of default or of reductions in market value caused by changes in the credit quality of issuers or counter-parties. Anthony (1997) asserts that credit risk arises from non-performance by a borrower. Credit risk arises whenever a lender is exposed to loss from a borrower, counterparty, or an obligator who fails to honor their debt obligation as they have contracted (Luy, 2010). According to Colquitt (2007), this loss may derive from deterioration in the counterparty's credit quality, which consequently leads to a loss to the value of the debt, or according to Crouhy, et al., (2006), the borrower defaults when he is unwillingly to fulfill the obligations.

Financial institutions have had challenges in managing credit risk because of its magnitude in the effect of bank operations. Bessis(2002), pointed out that Credit risk is critical since the default of a small number of important customers can generate large losses, which can lead to insolvency. The goal of credit risk management is to achieve the maximum risk adjusted return by identifying credit risk inherent in its individual bank transactions as well as portfolios and controlling the risk to acceptable limits. (Basel 1999) points out that the effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization.

Kenya's financial sector faced major crises in the 1980's and 1990's, due to under capitalization, high levels of non-performing loans and weaknesses in corporate governance. Kane and Rice (2001) stated that at the peak of the financial crisis in Benin, 80% of total bank loans portfolio which was about 17% of GDP was nonperforming in the late twentieth century. In Kenya NBFIs were the most hit in the crisis but the number of failing banks increased as well in the 1990's. According to Honohan and Laeven(2005), crisis culminated in 1992 when Kenya suffered formally a systematic financial crisis. In the year 2003, the Government of Kenya (GOK) published the Economic recovery strategy paper on wealth creation and employment. In the economic recovery strategy(ERS), the government acknowledged that the banking sector was experiencing difficulties that would undermine the achievement of the objectives set out in the ERS, including a comparatively high ratio of non-performing loans in some major banks, inadequate competition in the banking sector; persistence of wide interest rate spreads leading to a high cost of credit; insufficient quantities of credit (and poor quality credit assessments); absence of vibrant institutions for provision of long term finance; weak legal arrangements creating long delays in contract enforcement; and weak dispute resolution mechanisms.

2.3 Loan pricing

Loan pricing also referred to as cost of borrowing can be defined as the amount of money in addition to principal that a borrower pays to the lender for the use of money. It includes interest rates and other charges involved in the borrowing. Saurina (2005), defines interest rate as the amount a borrower pays in addition to principal of loan to compensate the lender for the use of the money while interest rate are the expression of interest as a percentage of the principal. Crowley (2007),pointed out that 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. Interest rate is normally expressed as a percentage of the principal over time period usually one year. According to Kithinji (2010), the largest income for any financial institution comes from loans in form of credit. The money lent out is supposed to be repaid back with additional fund which is famously referred to as interest .Banks assist in saving mobilization, pooling of risks and facilitate the transfer of funds from surplus areas to deficit areas of the economy. According to Ngugi (2001), interest rate as a price of money reflects market information as regarding expected change in the purchasing power of money or future inflation. Risk adverse banks thus increase the rate of interest and reduce the amount of credit so as to cushion the bank against adverse effects of credit risk. 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. According to Saunders and Cornett (2006), banks often add a risk premium based on its current assessment of the creditworthiness of the borrower, and then in the case that the borrowing firm gets into difficulty during the commitment period, the bank will be exposed to dramatic declines in borrower creditworthiness, since the premium is preset before the downgrade. Arise in interest rate has a tendency of affecting business activities by making credit more expensive and reducing the purchasing power of money. In a loan scenario interest rate is the difference between money paid back and money lent out to a client over a given time frame. Piana,(2002) states that the interest rate is the profit over time due to financial instruments. One of the most obvious ways for minimizing credit risk, as mentioned by Heffernan (1996), is that banks should ensure the price of a loan exceed a risk adjusted rate, and include any loan administration costs. Basically, the risk premium is higher for riskier borrowers and the loan rate should keep changing with the alteration of the loan risk profile. However, adverse selection is a potential problem, in which case the higher loan rate actually implies higher default probability.

2.4 Loan portfolio quality

A loan portfolio is referred to as of good quality when it has no or has minimal nonperforming Assets. Non performing Assets are loans that have low chances of being repaid back either partially or in full. A facility is classified as nonperforming when it's unpaid for a period of 90 days or more from the due date. When credit becomes unrecoverable for over 90 days, the interest accrued thereon is suspended to avoid continuous increase in the NPA amount. According to Alton and Hazen(2001), non-performing loans are those loans which are ninety days or more past due or no longer accruing interest. The major business of a financial institution is to lend out money. The credit creation process works smoothly when funds are transferred from ultimate savers to borrower (Bernanke, 1993). Being a business like any other, it has a profit component which is interest earned on the loans advanced. In the event that substantial amount of loans given out are not repaid as per the laid down contract, then the bank loses on income; hence weakening the institution(s) liquidity.

The eventual outcome of a weakened bank is bankruptcy and loose of customer confidence. Robert and Gary (1994) state that the most obvious characteristics of failed banks is not poor operating efficiency, however, but an increased volume of non-performing loans. A rise in non-performing loans handicaps the financial institutions in terms of its day to day operations. 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. According to (Meeker and Laura 1987), the accumulation of non-performing assets in banks has assumed great importance as it tends to reflect asset quality as a whole. Reddy, PK (2002) argued that the problem of NPA is not mainly because of lack of strict prudential norms, but due to legal impediments, postponement of the problem by the banks to show higher returns and manipulation by the debtors using political influence. Yadav, MS (2011) affirms that higher NPA engage banking staff on NPA recovery measures that includes filing suits to recover loan amount instead of devoting time for planning to mobilization of funds

When a bank is faced with high amount of NPA's, It loses not only the little income raised from operations but is also set aside a large junk of funds as provisions to cushion against loans defaulted. For a bank to operate effectively and be able to meet its day to day obligations, a health asset book is of essence. Batra, S (2003) noted that NPA also affect the psychology of bankers in respect of their disposition of funds towards credit delivery and credit allocation. From the CBK annual report (2010), the management of NPA's by banks is still a big concern since it has the potential of worsening the quality of loans. Financial health of any bank is assessed by the level of NPA's in their books. According to (Meeker and Laura 1987), the accumulation of non-performing assets in banks has assumed great importance as it tends to reflect asset quality as a whole. The credit risk's indicators include the level of non-performing loans, problem loans or provision for loan losses (Jimenez & Saurina, 2006). Ahmed (2010) noted that since the reform regime there have been various initiatives to contain growth of NPA to improve the asset quality of the banking sector. A quality asset book reflects good portfolio management on the side of the bank and its officials. If loans are paid as per the agreed contract then the bank is able to earn income which is a reflection of a health institution

2.5 Conceptual Framework

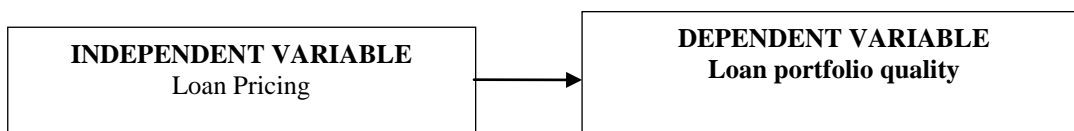


Figure 1: Conceptual Framework

The conceptual model suggests that the dependent variable is conceptualized as loan portfolio quality and is represented by Non performing Asset while the independent variable loan pricing was conceptualized as the cost of borrowing.

III. RESEARCH METHODOLOGIES

This chapter contains research methodology and covered research design, population of study, sampling method, sample size, data collection instruments, data analysis techniques.

3.1 Research Design

The study adopted descriptive research design .The research design was preferred for its detailed information on the topic under study. Descriptive research is relevant as it explains the current status of a phenomenon and is concerned with finding out the what, where and how of a phenomenon (Ngechu, 2004).Data was collected from both primary and secondary sources. For primary data questionnaires were administered randomly to various staff in the selected banks. Questionnaires proved a valuable method of collecting a wide range of information from a large number of respondents and are usually straightforward to analyze (Saunders et

al 2009). According to Amin (2005), questionnaires are popular because information can be obtained fairly easily and the responses are easily coded. Secondary data from Tier 1 commercial banks was obtained from NSE websites. Audited financial statements and CBK reports were used hence validity and reliability was anticipated

3.2 Target Population

The research targeted tier 1 commercial banks in Kenya that have branches within Kakamega town. Out of the 44 commercial banks in Kenya only five banks fall under the tier 1 category (Banks with an asset base of more than 150 billion). 144 staff working with the five tier one commercial banks that have branches within Kakamega town were targeted in the study. The study engaged staff at various levels of management who are directly involved in the provision of financial services. Given the time and financial constraint of the researcher, the target population was appropriate for the case under study

3.2.1 Sample & Sampling technique

A sample size of 35 staff was selected from the total target population of 144 staff involved. Given the target population of 144, a sample of 35 respondents was appropriate comprising about 24.3% of the target population. The sample size for this study was selected basing on the criteria set according to Roscoe's rule of thumb Sekaran (2003:295) i.e. a sample that is larger than 30 and less than 500 is appropriate for most research. Also according to Mugenda & Mugenda a sample size of between 10 and 30 % is a good representation of the target population hence the 24.3% was adequate for analysis.

The study employed purposive sampling technique and was limited to tier 1 commercial banks. According to CBK Annual supervision report 2014, there were five banks that fell under tier 1 category within Kakamega town (Banks with an Asset base of 150 billion and above). The analysis covered a five year period between 2009-2013. Purposive sampling was used to enable the researcher obtain information that is more representational and that can be generalized to a larger population. Gay (1981), suggest that, for descriptive studies, 10% of the accessible population is enough for a sample size. Also according to Mugenda & Mugenda (2006), a sample size of between 10 and 30 % is a good representation of the target population and hence the 24.3% was adequate for analysis.

Table 3.1 Sample Size

S. No.	BANK NAME	Asset base (Kes in Billions) by 2013	Target Population	Sample Population
1	Kenya Commercial Bank	304,112	40	10
2	Equity Bank	215,829	42	12
3	Cooperative Bank	199,663	34	8
4	Barclays Bank	185,102	18	3
5	Standard Chartered Bank	195,493	10	2
TOTALS		1,100,199	144	35

3.3 Instruments

Instruments of data collection involved questionnaires for primary data. Audited financial statements, CBK reports, Journals, research papers were used to collect secondary data.

3.4 Data collection procedure.

Data was collected by use of self-administered questionnaires under the researcher's guidance. Primary data was beneficial since it enabled the researcher administer questionnaires to a large population of respondents thereby obtaining more detailed information. Questionnaires were also easy to administer and interpret. Saunders and Schumacher (2000), argue that well standardized and tested questionnaires are most effective elements of a structured survey. The questionnaires were derived from the various research objectives together with the bank policies. Secondary data was adopted which involved NSE reports, CBK annual supervision reports, journals from various authors, Bank surveys reports from the financial institutions, books written by other authors and company websites.

3.5 Data Processing and analysis.

Data was summarized, edited and coded. Analysis was done by use of descriptive statistics such as standard deviation, range and variance. Regression model was used to analyze the data using statistical package for social sciences (SPSS) version 20. The software simplified the calculation of regression and correlation analysis. The software further enabled the researcher summarize a large amount of data, Correlation analysis enabled the researcher determine whether there is a relationship between variables while linear regression enabled the researcher establish the extent to which the independent variable affect the quality of the loan book and how much the independent variable accounts for the level of NPA'S.

IV. DATA ANALYSIS AND DISCUSSION

4.1 Demographic Characteristics

In this study, male were 23 (69.7%) of the respondents while female accounted for 10(30.3%) of the respondents in the study in terms of gender. For age bracket, the distribution of 21-30 years was 10(30.3%) while 31-40 years was (17)51.5% while that of 41-50 years 6(18.2%). With the education of respondents, most of the respondents were degree holders accounting for 18(54.5%) of all the respondents. Other valid education levels are diploma 9(27.3%) and masters (6)18.2% of all the respondents. The respondents were asked how long they have been in credit section, of the total respondents, 15 (45.5%) for less than 5 years, 6-10 years accounted for 12(36.4%) while 11-15 years were 4(12.1%). Between 16-20 years were 2(6.1%). Managers were 5 (15.2%) while credit officer were 28(84.8%).

4.2 Effect of loan pricing on loan portfolio quality of tier I commercial banks in Kenya

4.2.1 Descriptive statistics: Loan Pricing

Table 4.1 Descriptive Statistics

	Mean		Std. Deviation	Variance	Skewness	Kurtosis
	Statistic	Std. Error	Statistic	Statistic	Statistic	Statistic
Loan Pricing	4.5152	.09848	.56575	.320	-.614	-.635

From table 4.1, the mean for loan pricing was 4.5 with standard error of 0.09848 while the standard deviation was 0.56575. The variance was 0.320 while the kurtosis and Skewness was -0.614 and -0.635 respectively.

Table 4.2 Loan pricing

Loan Pricing	Frequency	Percentage
Strongly Agree	0	0.0
Disagree	0	0.0
Neutral	1	3.0
Agree	14	42.4
Strongly Agree	18	54.5

Results from table 4.2 above, none of the respondents strongly disagreed or disagreed with the view that loan diversification has an effect on portfolio quality of commercial banks. However, the same views were not confirmed by one of the respondents who comprised of 3.0% of total respondents. Twelve respondents comprising of 39.4% agreed that loan diversification has an effect on portfolio quality of commercial banks, a statement that was confirmed by 18 respondents comprising of 60.6% who strongly agreed.

4.2.2 Loan pricing and nonperforming assets correlation analysis

Table 4.3 correlation analysis

		Loan Pricing	NPA
Loan Pricing	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	33	
NPA	Pearson Correlation	.757**	1
	Sig. (2-tailed)	.000	
	N	33	33

Correlation results as from table 4.3 indicated a significant positive relationship between loan pricing and nonperforming Assets ($r = .757^{**}$, $p < 0.01$) with 99.0% confidence level. This is confirmation that loan pricing had a strong positive effect on the level of nonperforming Assets. The high value of loan pricing translates to high level of nonperforming assets hence poor loan portfolio quality, conversely low value of loan pricing translates to low level of nonperforming assets hence good loan portfolio quality. The results simply depicts that a higher pricing of loans affects the quality of the asset portfolio in the sense that it increases the level of nonperforming assets of the bank. Loan pricing is a factor of bank charges, fees and commissions. When the subject factors that affect loan pricing are high, the level of nonperforming assets increases thereby affecting loan portfolio quality as a result of a rise in loan pricing.

4.2.3 Loan pricing and non-performing Assets Regression analysis

Table 4.4: Loan pricing and non-performing Assets

R	Adjusted R	Std. Error of the	F ratio	Sig	DF
R Square	Square	Estimate		Value	Regression Residual
.757 ^a	.574	.3753	41.710	0.000	1 31

Loan pricing significantly accounts for 57.4% variation in level of NPA's with $F(1, 31) = 41.710$, $p < 0.05$. All financial institutions attach different pricing to their various loan facilities. The loan pricing usually determine the uptake of loans and at the same time affect the repayment of the same. If the price of loans is very high, there is bound to be a change in the level of NPA's reported by financial institutions. The level of NPA's determines the quality of the loan portfolio. According to the CBK annual report (2010), management of NPA by banks remains an area of concern, particularly, due to the likelihood of it worsening the quality of restructured loans. It is therefore of paramount importance that banks, give more weight to loan pricing since from the findings it causes more change in the level of nonperforming loans hence affecting loan portfolio quality.

Table 4.5: Regression Analysis coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	2.125	.899		2.364	.025		
Loan Pricing	.757	.117	.746	6.458	.000	.658	1.520

If loan pricing is held at Zero then non performing assets will be at 2.125 $t = 2.364$, $P < 0.05$. From table 4.5, the regression coefficient shows that a change in loan pricing by one per cent will result to a significant change in non-performing assets by 0.757 with $t = 6.456$, $P < 0.05$.

V. CONCLUSION AND RECOMMENDATIONS

The results reveal that, credit risk management influences the level of nonperforming assets which affects loan portfolio quality thus affecting the general performance of the bank. The result obtained revealed that loan pricing had a significant positive effect on the level of NPA'S hence having an effect on the general loan portfolio quality of commercial banks. The sustainability of any financial institution basically depends on how much they can earn in terms of interest income. The interest income depends also on how well credit risk is managed. The results conquer with those of (Idowu Abiola, 2011), who found out that the charging of higher rates is likely to discourage microenterprises from accessing loans from commercial banks. Those who are able take up such loans may also find it very difficult to repay because of the exorbitant interest rates. This situation has the tendency of creating 'loan-losses high-interest cycle'. Therefore loan pricing has a significant positive effect on portfolio quality of commercial banks and it accounts for a higher percentage in NPA variations. Since the major influence in non-performance of assets is cost of loans among other factors, financial institutions should charge interest rates that can be affordable to their clients. In so doing, the quality of the loan portfolio is bound to improve hence improving the performance of the bank. Lowered interest rates will in turn attract more borrowers hence positively increasing the bank's incomes. The model could only explain up to 57.4% in variance of nonperforming assets of financial institutions, it is recommended that a study be carried out consisting of other factors which were not part of the model so as to predict the remaining variance in nonperforming assets.

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