



NEAR EAST UNIVERSITY

**FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATIVE
SCIENCES DEPARTMENT OF BANKING AND FINANCE**

**BANK410
SEMINAR ON BANKING
GRADUATION PROJECT**

AN ASSESMENT ON THE CREDIT RISK OF NORTHERN CYPRUS

SUBMITTED BY: Pakize Eda YİRİK (20020421)

SUBMITTED TO: Yrd. Doç. Dr. Okan ŞAFAKLI

**SEPTEMBER 2006
NICOSIA**

ACKNOWLEDGEMENTS

First and foremost I would like to thank very much to my advisor Yrd. Doc. Dr. Okan ŞAFAKLI who never left his support and always encouraged me during my study.

Also I would like to thanks all instructors of the department that never left their support.

And finally, I would like to thank very much to my family and friends who have much contributions to my all studies which invisible and who have always are giving me advice and support to study.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

CONTENTS

ABSTRACT	3
INTRODUCTION	4
1. THE CONCEPTS OF BANKING RISKS AND CREDIT RISK	4
1.1. Types of banking Risks	6
a) Credit Risk	7
b) Interest Rate Risk	9
c) Liquidity and Funding Risk	10
d) Foreign Exchange Risk	11
e) Market Risk	11
f) Country and Sovereignty Risk	12
g) Operational Risk	13
h) Off-balance sheet Risk	13
i) Other Risks	13
1.2. Measuring Credit Risk	14
1.2.1 Importance of Measuring Credit Risk	14
1.2.2. The Main Indicators of the Credit Risk	15
1.3. Managing Credit Risk	15
2. CASE OF NORTHERN CYPRUS	17
2.1. Banking Structure & TRNC banking Sector	17
2.2. Credit Structure & TRNC Banking Sector	18
2.3. Measuring Analysis & Credit Risk in TRNC Bank. Sector	20
2.3.1. The Credit in the TRNC Banking Sector	21
2.3.2. The Disharmony between Credits and Deposits	27
3. GENERAL EVALUATION AND CONCLUSIONS	28
REFERENCES	29

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

TABLES AND GRAPHS

TABLES

Table 1: Distribution of Banks (December 2005)	17
Table 2: The Ratio of Total Assets to GNP	21
Table 3: The Ratio of the Total Credits to the Total Deposits in TRNC	22
Table 4: The Ratio of the Total Credits to Total Equity Capital	23
Table 5: Ratio of the Foreign Currency Credits to the Total Amount of Credits	24
Table 6: The Ratio of the Unrecoverable Credits to the Total Credits (2002-2005)	26

GRAPHS

Graph 1: The Ratio of Total Assets to GNP	22
Graph 2: The Ratio of the Total Credits to the Total Deposits in TRNC	23
Graph 3: The Ratio of the Total Credits to Total Equity Capital	24
Graph 4: Ratio of the Foreign Currency Credits to the Total Amount of Credits	25
Graph 5: Distribution of the credits according to their terms	27
Graph 6: The Recovery Ratios for the Credits and Delayed Receivables (200-2005)	28

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

ABSTRACT

In this research analysis, the subject of credit risk, which carries a lot of significance for the banking sector, has been examined for the banking sector of the Turkish Republic of Northern Cyprus (TRNC). When one looks at it retrospectively, we can observe that the credit risk had a marking effect on the banking crisis previously experienced in the country. Regarding the fundamental ratios, until the starting point of the crisis, though, there were steady increases in the banking risks. However, following the crisis, it is observed that with the administrative, legal and financial measures taken, the risk dropped. Not only this situation has been determined with the credit risk ratios, but it has also been found out during the controls and evaluation stage of credits that no collateral provisions had previously been allocated. However, the necessity for strengthening of banks, from the point of view of equity capital, which is seen as a safety valve, has been very apparent.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

INTRODUCTION

The controlling of the credit risk, from the point of view of the stability of the banking sector, is considered as one of the fundamental conditions. Within this frame, in this study, the credit risk in the TRNC has been retrospectively and scientifically studied. In connection with the credit risk, the administrative and legal arrangements and also the balance sheet items for the period 1990-1995 have been evaluated throughout the study and the concepts have been put down as descriptive therein.

In the study, firstly, the definition and explanation on the concept of the credit risk has been presented and then the credit risk indicators pertaining to the banking sector have been analyzed. In the second section of the study, the fundamental structure of the banking sector in TRNC has been put forward. The assessments made in the TRNC about the credit risk are considered in the third section of the study. The conclusions and proposals of the study, on the other hand, take the final part.

1. THE CONCEPTS OF BANKING RISK AND CREDIT RISK

Introduction

Banks are the most important financial institution in the economy. They are the principal source of credits for millions of individuals, families and for many business units as well as for the governmental institutions. Throughout the world, banks are the institutions that provide loans to consumers than any other institutions. Moreover, bank reserves are the principal channels for government policy to stabilize the economy. So, for all these reasons, banks are one of the most important society's institutions.

Before going through the risk involved in the activities of these institutions let us have a look at what the bank is, how it operates, what kind of services it gives and the role it undertakes within the society. A bank is a financial intermediary accepting deposits and granting loans; and offers the widest menu of financial services for the people. Certainly, banks can be identified by they perform in the economy. The problem is that the functions of banks are continually changing and also the functions of their principal competitors are changing. Furthermore, within the economy there are non bank institutions for the banks that they have to compete with. These are security dealers, brokerage firms and others similar. The nonblank institutions and their services are given as follows:

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

<u>The non-bank institutions</u>	<u>Services</u>
1. Credit unions	offer customers credit, payment, and saving deposits
2. Insurance companies	provide customers with long term savings plans, risk protection, and credit.
3. Mutual funds	supply professional cash management and investing services for term savers
4. Real estate developers	supply building and construction expertise and construction financing to their customers
5. Security brokers	provide investment and savings planning, executing security purchases and sales and provide credit cards
6. Check cashing firms	supply with customers access to ready cash (liquidity) and short term loans

A modern bank feels the impact of the services of the said nonbank competitors. In fact, a modern bank deals with the functions given below:

- * The credit (loan) function,
- * The payments (transaction) function,
- * The savings function,
- * The investment/financial planning function,
- * The real estate and community development function,
- * The cash management function,
- * The merchant banking (the temporary stock investment function),
- * The investment banking security function,
- * The security brokerage function, and
- * The insurance management functions.

The financial market in Northern Cyprus has not been so developed to cover all the said functions. They only deal with normal deposit taking, saving, investing and credit services besides the insurance services. Therefore, one can not talk about any modernism for the banks operating in Northern Cyprus. While many people also believe that banks play a narrow role in the economy by taking deposits and making loans, the modern bank has to adapt itself to new roles in order to be able to remain competitive. Banks' principal roles are as follows:

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

- The intermediation role,
- The payments role,
- The guarantor role,
- The risk management role,
- The savings and investment advisor role,
- The safekeeping of values role,
- The agency role,
- The policy role.

Banks in our modern world, have to deal with the above given roles and functions and undertake solving the risk brought together with them. Normally for commercial banking, management's goal is to maximize the shareholders' value. If the institution for instance has a good reputation in the market and the market is seen so efficient then there is no reason for that institution to be in loss. If the bank is small, for example, then the managers will try to maximize the owner's investments by seeking the highest profit through acceptable levels of risk. However, with the increased pressure on banks to improve shareholders' returns, banks have to assume certain risks and at the same time, manage those risks to avoid losses. Recent developmental changes in banking management, such as the ones imposed through globalization and other concepts, banks to tackle with serious risk challenges and also have productive results.

1.1. Types of Banking Risks

There are various types of banking risks and they are given as follows:

- a) **Credit risk,**
- b) **Interest rate risk,**
- c) **Liquidity risk,**
- d) **Foreign exchange risk,**
- e) **Market or trading risk,**
- f) **Country or sovereign risk,**
- g) **Operational risk,**
- h) **Off-balance sheet risk,**
- i) **Other risks (Inflation risk, Settlement or payment risk, Regulatory risk, Competitive risk, operating risk, reputation risk, portfolio risk, call risk)**

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

a) Credit risk

Credit risk is defined as 'the potential that a borrower or counterparty will fail to meet its obligations in accordance with agreed terms'.(B. Casu, C. Girardone, P. Molyneux, 2006; Banking Risks). Credit risk is associated with the traditional lending activity of banks and it is simply described as the risk of a loan not being repaid partly or in full. However, credit risk can also derive from holding bonds and other securities. (Rose, 2002).

The most fundamental function of banks is to advance loans or credits to customers or clients. While advancing loans, banks' executives should give the right decisions through considering the borrowers' credit position, that is to say their credibility positions, because these would ultimately affect both the balance sheet structural position and the future standing of the businesses. Therefore, credit risk is seen one of most significant risks faced by banking sector. Thus, **credit risk can be defined as the situation where the borrower does not conform to the mutual credit agreement signed between the lender bank and the borrower client.** The credit risk, in fact, is not only seen in the credit procedures involved but it is also seen in the guarantees and acceptances, real estate investments, etc..(Aloğlu, Mart 2005)

Although, the credit risk is the oldest form of the risks seen in the financial markets, its background goes back to the period of Before Christ 1800 and to the Babylon times. The credit risk is defined, though, as the definite loss faced as a result of the client's not conforming to the credit agreement he or she previously signed. The loss adds up with the procedural costs involved in the course of the events.

From the banks point of view, although the reason for the credit risk is mainly the loans and advances given out, there also exist various other activities such as; inter bank transactions, acceptances, trade finances, trade in foreign currencies, swap transactions and procedures, bonds, options, term based transactions, guarantees and bails, all which might have considerable effects on the credit risk.

Bank managers should minimize the credit risk and the associated losses by building portfolio of assets (loans and securities) that diversifies the degree of risk. However, focusing on loan risk that constitutes the largest proportion of bank's assets, we can say that lending function has four different functional steps such as;

- Originating (that is to say the application process),
- Funding (approval of the loan and giving the funds out),
- Servicing (collecting interest and principal payments through installments),

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

- Monitoring (checking on borrowers behavior and throughout the term of loans)

We must investigate the repayment ability of the borrower before approving the loan. Also, banks use technological developments to facilitate the loan services and procedures for the borrowers. The contracts are costly for banks but they are essential for protecting the funds of both banks owners and lenders.

It is usually accepted that all banks experience some loan losses and the degree of risk varies from institution to institution. All banks have their own credit policy and philosophy. The credit philosophy focuses on the aggressiveness of the loan growth, or the goals of a more conservative management aiming at high quality of selected loan portfolio. Whereas, loan policies reflect the degree of risk that the management could be ready to take and may change over time.

Banks can monitor their credit risk by looking at the changes in the ratio of:

Medium –quality loans / total assets

The bank can lower its credit risk by lowering this ratio. However, if data on medium quality of loans are not available, the traditional credit risk ratios that could be used are given as below:

- the ratio of the total loans to total assets,
- the ratio of the non performing loans to the total loans,
- the ratio of the loan losses to the total loans,
- the ratio of the loan loss reserves to the total loans.

Another important credit risk measure is the ratio of the total loans to the total deposits. The higher the ratio, the greater the concerns of the regulatory authorities, as loans are among the riskiest of bank deposits. A greater level of non-performing loans to deposits could also be risky for the depositors.

Since credit risks are unavoidable and they could happen at any time for banks, then banks should be able to have diversification on their funds so that they can offset their probable losses as a result of those risks. So, diversification always helps decreasing the credit risk.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

b) Interest rate risk

Let us first see, what an interest is about. Interest rate is a *price* that relates to *present* claims on resources relative to *future* claims on resources. In other words, an interest is the price that a borrower pays in order to be able to consume resources now rather than at any time in the future. Correspondingly, it is the price that the lender receives against the use of the current consumption. Interest rates are established in the market through the interaction of the supply and demand. Therefore, in brief, the definition of the interest rate can be summarized as; **prices established by the interaction of the supply of and demand for future claims of resources.**

Interest rates have a crucial role in the financial system. They influence; the financial flows, distribution of wealth in the economy, capital investment decisions and profitability of financial institutions. For banks, the interest rate risk is associated with the unexpected changes in the interest rates. However, not all banks' assets and liabilities are subject to interest rate risk. For instance, there exist important distinctions between the fixed rate assets and liabilities and rate-sensitive assets and liabilities. Here is the important note:

- **Fixed rate assets and liabilities carry rates that are constant throughout a certain period and their cash flows do not change over time.**
- **Whereas, rate sensitive assets and liabilities can be re-priced over time and thus the corresponding cash flows can change over time.**

A rise in the interest rates in the market has the effect of increasing the banking costs because the financing costs increase. If for example rates have been made at fixed rates, this obviously reduces the net returns on those loans. On the other hand, banks will be vulnerable to falling rates if they hold an excess of fixed rate liabilities.

The traditional interest rate risk, it is a common practice to refer to the *interest rate sensitive assets* and *interest rate sensitive liabilities*. When rate sensitive assets exceed rate sensitive liabilities, a bank is vulnerable to losses from falling interest rates. Conversely, when rate sensitive liabilities exceed rate sensitive assets, losses are likely to occur if the market rates rise. Ideally if a bank has that ratio as 1.0 then bank's returns will be lower if interest rates decline and higher if they increase.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

Thus, bank managers today use sophisticated measures of interest rate management such as; gap bucket analysis, maturity models and duration analysis, which can be analyzed in detail.

c) Liquidity and funding risk

A liquid asset may be defined as an asset that can be turned into cash quickly and without any capital loss or interest. Most of the bank deposits are supposed to be very quick; however the investments in property for example are considered as highly illiquid. A bank needs liquidity to cover a possible surge in operating expenses and to satisfy loan demand. On the other hand, lenders want to have high level of liquidity in their loans.

Liquidity risk is generated in the balance sheet by mismatching the size and maturity of assets and liabilities. This is a kind of risk that involves in bank's holding of insufficient liquid assets. Banks have to cope with their liquidity problem to ensure that both the unpredictable liquidity demands are met. However, liquidity risk can also occur when the duration of the balance sheet is matched. For example if some of the loans appear to be defaulted and they are too large, in order to satisfy the customers demands for the withdrawal, the bank will look for other funds for the finance of the customers' withdrawal of deposits. In case that the bank could not find necessary funds to recover its liquidity needs through inter-bank funds, then it will fall into liquidity crisis.

On the other hand, liquidity crisis occurs when depositors demand larger withdrawals than normal. Thus under this kind of circumstances, the bank has to borrow funds at relatively higher interest rates.

Therefore, banks can decrease the liquidity risk through increasing the proportion of funds as cash and readily convertible assets into cash; such as the treasury bills and the use of longer term of liabilities. The problem here is that usually the liquid assets tend to have relatively lower returns. In other words, one could say that this is some sort of trade off between liquidity and profitability.

So, one of the measures that banks could take in order to overcome the problem of liquidity is that they should be able to monitor their short term securities. Another ratio that should be monitored is the loan/deposits ratio. This ratio tends to focus on the liquidity of assets on the

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

balance sheet. Furthermore a relatively **higher ratio of securities / deposits** and a **low loans/ deposits ratio** will indicate less risky but also less profitability position for the bank.

d) Foreign exchange risk

As a result of the globalization policies and procedures, the international foreign direct investment activities leading to foreign exchange relations and activities have been gaining more emphasis. The foreign direct investors' profit related expectations could turn out to be in different direction because of the foreign exchange rates prevailed in the markets. As already known, the changes in the value of a country's money can affect the foreign exchange rate of that currency. Exchange rates also are determined in the market conditions through the influences of demand and supply.

Foreign exchange can be in various forms; it can be in the form of cash, funds available on credit cards, bank deposits or various other short term claims.

Foreign exchange risk is considered to be the risk occurred when the exchange rate fluctuations affect the bank's assets, liabilities and other activities taken place in its balance sheet. A bank may take advantage of the situation and market conditions of another country where the interest rates or margins are attractive. A bank that lends in a currency, which then depreciates its value relatively more quickly compared to the home country, may face foreign exchange risk.

Let us take an example: suppose a firm in TRNC has a net long term asset position of 100 million US Dollars. By being net, the assets would mean to be more than the liabilities. If the firm has 60 million US Dollars on the liability side of its balance sheet, in YTL. The YTL's are dominated in Euros. The TRNC firm will suffer losses if the exchange rates for dollars depreciate against the Euro over a particular period because the US Dollars loan assets decrease in value by more than the Euros.

e) Market (or trading) risk

This type risk is the losses arisen due to the market price movements that affect the balance sheet positions. Usually it is with the short term trading assets, liabilities and it relates to the interest rates, exchange rates and other prices prevailed in markets. However, under modern conditions and circumstances, the risk appears to be due to the decline in the additional

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

sources of income. The banks appear to rely more on the trading securities. The market conditions usually cause the earnings of banks to fluctuate and when the said conditions show themselves then it is said that there is market risk therein. However, if the market is systematically happening then this type market risk is called systematic market risk. The specific market risk and systematic one differ. Heffernan (2005, p.107) distinguishes this difference as in the following:

A systematic market risk is the type cause by the macro factors created by governments.

A specific market risk is the one that arises in situations where the price of one specific component moves out of line.

Therefore, in short, the market risk for banks is the risk that the value of investments may decline over a particular period simply due to the economic changes and the changes in the prices of some goods. Typically saying, market risks relate to the changes in the interest rates, exchange rates and securities prices.

f) Country and sovereignty risk

Country risk is the risk that a foreign country's economic, social and political conditions adversely affect a bank's financial statements. When the macro economic conditions of a country has adverse effects on the overseas investments the returns of that investment decline and therefore this type risk arises from the country's conditions. For instance, the international investments always carry such risk. International lending also carries unexpected risks of this type, however, there is a wide acceptance that a loan to a foreign government is safer than it is for a private company.

However, it is also true that sometimes the lending to overseas governments may appear to be risky because of the reason that the government may declare the debts as null and void. This typical situation happens when the government of a foreign country experiences political and economic difficulties. This is called **sovereign risk**. This is why there exist international organizations that evaluate countries positions and credibility, like Moody's, etc.. The countries credit ratings are evaluated through the scores such as; BB, AA, AAA, AA+, A-, BBB, etc..

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

g) Operational Risk

Another important banking risk is the operational risk. According to the Risk management Group of Basle, this type of risk is defined as **‘the risk of loss that results from inadequate internal processes, people and systems or external events’**. In other words, this is the risk associated with the collapse of the bank’s system, management failure and control systems. It is also associated with the technological risk as well. However, the technological risk is considered to be a little bit different in the sense that the technology risk occurs when technological investments do not produce any good result for the banking operations. However, the operational risk occurs whenever the existing technological systems malfunction. As shown in the table below, operational risk includes various risk type events:

- International misreporting of positions, employee theft and the like internal frauds.
- Robbery, forgery, cheque kiting, damage to the computer systems and the like external frauds.
- Employee practices, workplace safety related events such as; workers compensation claims, violation of employee health, etc..
- Misuse of confidential customer information, improper trading activities on bank accounts, that all related to clients and business practices.
- Hardware and software failures.
- Data entry errors, collateral management failures, incomplete legal documentation etc..
-

h) Off-balance sheet risk

This type of banking risk is related to the risks incurred in the banks dealing with non-traditional banking activities such as; guarantees and letters of credit. Such activities do not appear in the balance sheet they involved in contingent assets and liabilities. The bank may be in loss in connection with those activities due to various reasons. Therefore should be careful when giving guarantees and letters of credit not to exceed the limits of the bank.

i) Other risks

Still there are some other risks such as; inflation risk, settlement or payment risk, regulatory risk, competitive risk, operation risk, legal risk reputation risk, portfolio risk and call risk.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

1.2. Measuring Credit Risk

1.2.1. Importance of Measuring the Credit Risk

In order to analyze the assets quality, we should first look through the previous trends, then the present balance sheet should be evaluated and finally necessary measures are to be taken against those qualities that are seen to have negative effects in the future of that institution.

So, in evaluating the background information and performance of a bank, usually it is of primary importance to have a look through the given out credits whether they have been in an unrecoverable position or not. This issue is very significant. Then, the bank should go through the delayed receivables to see whether it has sufficient collaterals for them or not. (Gür, 2004)

Regarding the present position of the bank under study, one should have a look at the ratio of the delayed receivables to the total collateral delayed receivables and equities. In case that the ratio exceeds 100%, it would mean that the bank should record those delayed receivables as losses and thus the bank would fall into an insolvent position. In case that the ratio exceeds 100%, on the other hand, it is required that the bank should determine how much profit before provision is to be allocated. In case that many years are required, the bank should inject in some amount of external capital. (Gür, 2004)

The ratio of the total reserves and equities of a bank to its net credits measures the percentage of the portfolio of the living credits it could write as loss, without losing its payment power. (Gür, 2004).

In general, credit risks are evaluated by the degree involved. Credit risk has got two dimensions, being:

- amount of the risk (means the amount of loss involved due to the risk),
- quality of the risk.

A financial institution should be able to measure the degree and quality of the risk faced, so that it would be able to see the ability of the borrower's paying back the credit used. Usually, the models used in measuring the recovery of the credits are similar, and they can be summarized as follows:

- The qualitative models,
- Scoring the credit (putting some degrees to credits) (Aloğlu, 2005).

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

1.2.2 The Main Indicators of the Credit Risk

The main indicators of the credit risk are known as;

- (1) The ratio of the total amount of the loans and advances to the total assets in the sector.
- (2) The ratio of the foreign currency credits to the total credits,
- (3) The ratio of credits to deposits,
- (4) The ratio of the delayed recoveries to total credits,
- (5) The credits turnover ratio.

The sudden drop in the interest rates for instance in the market may lead to the ratio of credits to the total assets to decrease as a result of the increases in the demand for credits. On the other hand, the credit turnover ratio which means the ratio of the gross delayed recoveries to the total amount of credits and gross delayed recoveries, shows the level of ability of the institution in collecting back its loans and advances given out. Furthermore, the share of the foreign advances in the total loans and advances could be an indicator for the foreign exchange risk as well within the economy. In addition to the said, the increase in the ratio of the total credits to the total amount of deposits in the economy would mean a start of the increase in the credit risk. On the other hand, the more the ratio of the not recovered and delayed credits to the total amount of credits, the higher the credit risk will be for the banking sector as well as for the whole economy.

1.3. Managing Credit Risk

Banking activities are the operations that should normally and constantly be monitored. The purpose here is to be sure that the advancing of loans has been doing well. If the credit risks involved at any position and stage of the operations of banks gets higher scores or dangerous indications then this should be so managed, in order to cope with it in time and get rid of the dangers, otherwise the negligence of the steps to be taken on time might have adverse effects for the banks future activities and financial positions.

For most banks, loans constitute the largest portion of the credits risk. Banks are increasingly facing credit risks, so the management of the said risks specifically addresses the areas such as;

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

- 1-Establishing an appropriate credit risk environment,
- 2-Operating under a sound credit granting process,
- 3-Maintaining an appropriate credit administration, measurement and monitoring process, and
- 4-Ensuring an adequate controlling system over credit risk.

As a matter of fact, specifically speaking about the credit risk management systems, it can be said that the practices may differ from bank to bank. However, broadly speaking, a comprehensive credit risk management should cover the said four areas in order to be more efficient.

More to say, managing the lending function carries a lot of significance. Prior to taking lending decision, banks need to access the risk return trade off of a loan. This process involves both the assessment of the risk of the applicant and the applicant's business, analysis of the environment, the purpose of the loan and particularly the loan structure requested by the applicant. Naturally, with this sort of evaluation before hand would help decreasing the probable risk in the future.

One key step in this process is the pricing of the loan. This price is called the loan rate which would give the return on the loan. The loan return on the other hand, has got various factors affecting it and these factors are given as below:

- 1- Interest rate on the loan,
- 2- Fees relating to the loan,
- 3- **Credit risk** premium on the loan,
- 4- Collateral backing of the loan,
- 5- Other non priced terms.

Therefore retail lending procedures and evaluation of the credit applications carry great significance because all the things will be based on the studies and procedural actions taken right at the beginning. Besides, mortgaging, credit checking in the end and scoring the credit carry a lot of importance for future credit risk that possibly might come up.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

2. THE CASE OF NORTHERN CYPRUS

2.1. Banking Structure and TRNC Banking Sector

The number of banks in the TRNC has drastically gone down from 37 in 1999 to the current 25 (Northern Cyprus Bankers' Association, 2003). The driving force behind this fall has been the economic and financial crises, which swept the country starting from late 1999 through 2000 and most of 2001.

There are 25 banks now operating under the new Banking Law that has come into force in November 2001. The new Law includes a large number of amendments in its content (when compared with the original 1976 law) in an attempt to safeguard the banking system against future probable crises.

The distribution of the banks by sectors is given below:

Table 1: Distribution of Banks (December 2005)

SECTOR	AMOUNT
State Banks	1
Cooperative Banks (operating under the Banking Law)	2
Commercial Banks	14
Foreign Banks	6
TOTAL	23

Source: TRNC Central Bank

Along with the 23 local banks, there are 18 off-shore banks operating in the TRNC. Most of the off-shore banks are owned and operated by their parent banking corporations headquartered in Turkey.

As seen from the above table, as of December 2005, the total number of the banks operating within the boundaries of Northern Cyprus, is comprised by 1 State bank, 6 foreign branches, and 14 local banks under commercial status. The mentioned commercial banks give service through 131 branches and with 2297 employees. (TRNC Central Bank 2006, p.33).

As from December 2005, from the point of view of the size of their balance sheets, the total assets of the banks realized as 3134.4 million US Dollars, total credits as 1169.1 million US

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

Dollars and their total deposits as 2707.3 million US Dollars, while their equity capital also realized as the amount of 201.9 million US Dollars. The Gross Domestic Product (GDP) ratios of those figures, on the other hand, are 143.07% for total assets, 53% for total credits, 123% for total deposits and 9.2 for the total equity capitals (TRNC Central Bank 2006, p. 8, 31, 32, 37, 46, 56, 59).

According to the 1977 figures provided by the State Planning Organization (SPO), the banking sector's share of the total fixed investment amount to national income realized as 4 %. Also, according to the data given by the State Planning Organization, the share of the banking sector in the total employment of the country was determined as 2.5%. The share of the sector for the period of 1992-1998 increased from 3.6% to 4.7%. These data, indicates the important place of the banking sector within the TRNC economy. According to the distribution of the sector's GDP share in which the financial institutions are also included, we can observe that the said figure had been 6.0% in 1977 and as a result of the crises experienced in the banking sector this share decreased down to 4.2% as of the year 2003. Similarly, the employment share for the same years had a lagging behind from 3.2% to 2.5 %. (Şafaklı 2006, pp. 167-168).

2.2. Credit Structure and TRNC Banking Sector

Before concentrating on the retrospective analysis of credit structure and risk for the banking sector of Northern Cyprus, the role of credit risk in banking crisis of the said bank is appropriately noted.

At the beginning of 2000, some of the banks in North Cyprus became insolvent causing serious problems in banking sector. As a result of this development, government decided to liquidate Kıbrıs Yurt Bank, Kıbrıs Finans Bank, Everest Bank, Kıbrıs Hürbank and Kıbrıs Kredi Bank and turn over their management to Deposit Insurance Fund (DIF). In 2001, Tilmo Bank, Yasa Bank, Ticaret Bank, Asya Bank and Endüstri Bank were also liquidated and their management transferred to Deposit Insurance Fund (DIF).

A period of very high interest rates, fierce competition, devaluation and mismanagement of financial institutions culminated with depositor's losing their confidence in the financial market of TRNC. The spark that leads to an explosion of banks collapsing was panic.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

Investors felt insecure and surged on banks in order to withdraw deposits. This action dealt the last blow to those banks, which were already encountering liquidity problems, causing them to close their doors and go into liquidation. The basic risk areas that were identified to be behind the cause of bank closures in TRNC are credit Risk & credit risk management, market risk, interest rate risk, liquidity risk, capital adequacy, concentrations of risk and large exposures and connected lending.

This element of banking is one of the primary most important areas, which needs to be constantly monitored to ensure that credits/loans granted are performing well and that funds are returning to bank on agreed time schedule and amount in order to sustain liquidity. The TRNC Banks, which collapsed, encountered problems in recouping the loans, granted to individuals, businesses and companies causing a tight liquidity situation resulting in delayed daily cheque clearing transactions culminating in rumours and panic with a rush of investors to banks demanding withdrawal of deposits. Large amounts loaned to a single borrower or a specific area of the economy generates a high risk and is vulnerable to economic changes resulting inability to service loan and subsequent default in loan repayments, which has a knock on effect on reducing liquidity. This was clearly evident from the records of banks, which had gone into receivership in TRNC. These large amounts were advanced to the main shareholders of the bank against security, which upon revision showed clearly to be inadequate in value and even in some cases purely guarantee related. This sort of credit advance is referred to as Connected lending and is restricted by banking law (TRNC Parliament Law dated 16th November 2001 no94/1 point24), which stipulates that loans to shareholders, affiliated companies, should not at any time exceed 20% of total shareholders equity. This figure was unofficially reported to have reached as high as 80% in some of the banks, which went into receivership. It has been argued that this type of high usage of funds by banks owners was in fact intentional and in some cases the primary aim and is referred to as the tornado effect that sucks up everything in its path. The supervisory function operates to identify such malpractices and regulatory violations reporting them immediately to the relevant bodies for evaluation and action. It is alleged that reports prepared by governmental supervisors stated facts, figures and recommendations to the relevant government departments but clearly no corrective actions or interventions were felt necessary to bring lending practices into line with the regulatory requirements.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

The credit risk management process has also been an area where TRNC banks have fallen short of adopting regulations and practices that would reduce to a minimum or eliminate bad lending. The TRNC community is very close knit therefore loan applications followed by appraisal and granting decision is very much influenced by the ties formed between individuals in the community. Asymmetric information flow is very much in evidence with potential borrowers forcing banks to take into consideration factors such as pressure applied by existing customers on banks and personal links with bank personnel to grant loans, which would normally not meet the regulatory standards, or criteria required to ensure repayment of loan.

Some banks in the TRNC have formed credit committees to ensure a distribution of authority to grant loans is not placed in the hands of any one individual that could encourage malpractice and fraud but to transfer this responsibility to designated experienced officers that can all evaluate the factors which attribute to granting healthy repayable loans. The total of loans granted by banks make up a large proportion of banks assets and therefore need to be constantly monitored to ensure quality and performance. Banks, which have collapsed and gone into receivership, do not have loan portfolios considered to be healthy, of a high quality, backed by easily disposable assets and performing to expected levels (Şafaklı 2003).

2.3. Measuring Analysis & Credit Risk

Introduction

Like in many other countries in the world, it is a known fact that the banking sector in TRNC has been experiencing risks from time to time. However, one of the ways of keeping these risks at their minimum level is to examine and find out the internal and external factors involved, first of all, and thereby managing those risks in an effective manner. Risk management is seen as one of the duties and responsibilities of the Central Bank in TRNC as far as the risks are related to the functions of the banks operating in TRNC. Here one would say that there exist studies carried out within the Central Bank in this respect. (2005 Annual Report of The TRNC Central Bank).

Regarding the type of risks involved in the banking sector in TRNC, one would say that there exist three types of risks prevailed in the sector. These are given as follows:

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

- a) Credit risk,
- b) Activity risk, and
- c) Operational risk.

It is only of our interest for the time being to examine the credit risk only.

2.3.1. The Credit Risk in the TRNC Banking Sector

The banking sector of TRNC can be evaluated as a very vulnerable market, due to its reliance on the Turkish Lira but its foreign trade being mostly with the European countries. In other words, all in all, the economy is sensitive to both the internal political and external factors. In this connection, one can say that the risks involved in all the sectors including the banking sector and its credit risks are being taken as granted.

As seen from the table and its chart below, the ratio of the total assets to GNP has had a steady increase during the past 16 years and it seems that this trend will continue, which case means that due to the investments made in the economy the assets gradually get increased. The question to be asked is whether the increase in assets has its impact on the credits and whether there exists any risk involved or not.

Table 2: The Ratio of Total Assets to GNP

<u>Years</u>	<u>Total Assets/ GNP</u>
1990	0.72
1991	0.77
1992	0.71
1993	0.95
1994	1.26
1995	1.16
1996	1.13
1997	1.35
1998	1.47
1999	1.57
2000	1.37
2001	1.32
2002	1.28
2003	1.62
2004	1.69
2005	1.66

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

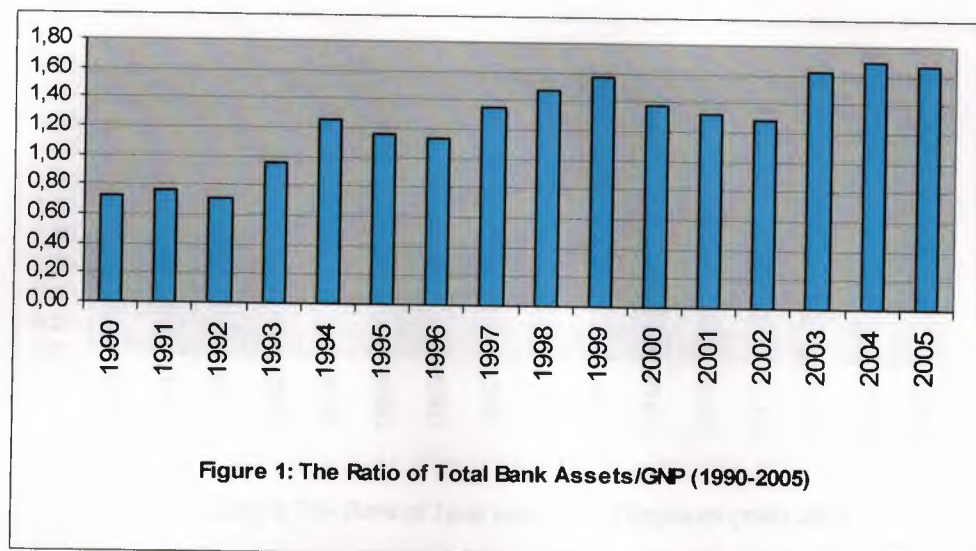


Figure 1: The Ratio of Total Bank Assets/GNP (1990-2005)

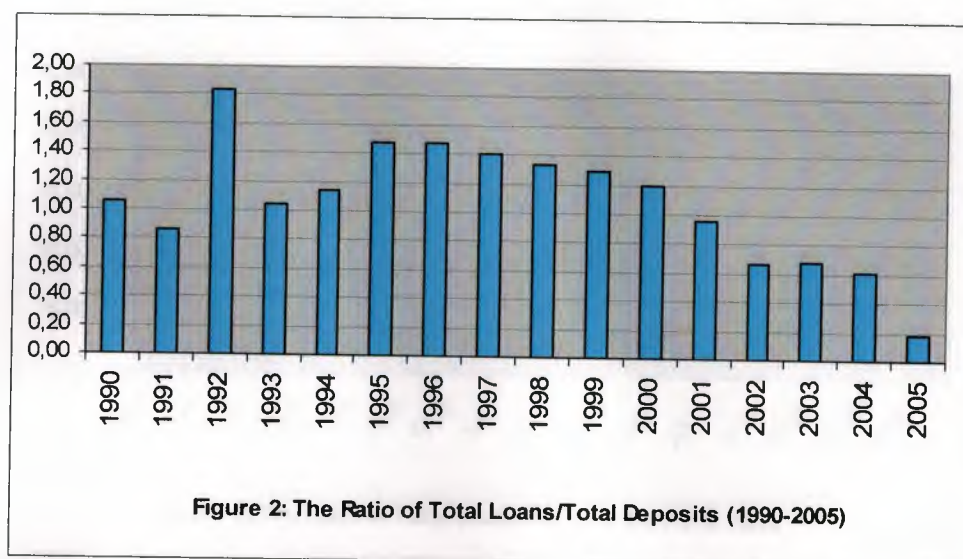
Source: TRNC Central Bank

On the other hand, the ratio of the total credits to total deposits in the banking sector has shown fluctuations. It entered a decreasing trend after 1996 when it was 1.47 and has dropped down to the level of 0.34. This situation indicates that gradually the borrowers started not to use credits for their investments. The reason for this might be the decrease of the ability to repay back the loans. Perhaps the businesses had losses due to unfavorable conditions prevailed in the market. However, as it is commonly agreed upon, the stuck in a political solution to the Cyprus problem definitely has had negative effects on all the sectors activities including the banking sector thereby the saving ability decreased. If clients have better economic standing they would be in the position to use credits for their investments.

Table 3: The Ratio of the Total Credits to the Total Deposits in TRNC

<u>Years</u>	<u>Total Credits / Total deposits TRNC</u>
1990	1.06
1991	0.86
1992	1.84
1993	1.04
1994	1.14
1995	1.47
1996	1.47
1997	1.40
1998	1.34
1999	1.29
2000	1.19
2001	0.96
2002	0.67
2003	0.68
2004	0.61
2005	0.34

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS



Source: TRNC Central Bank

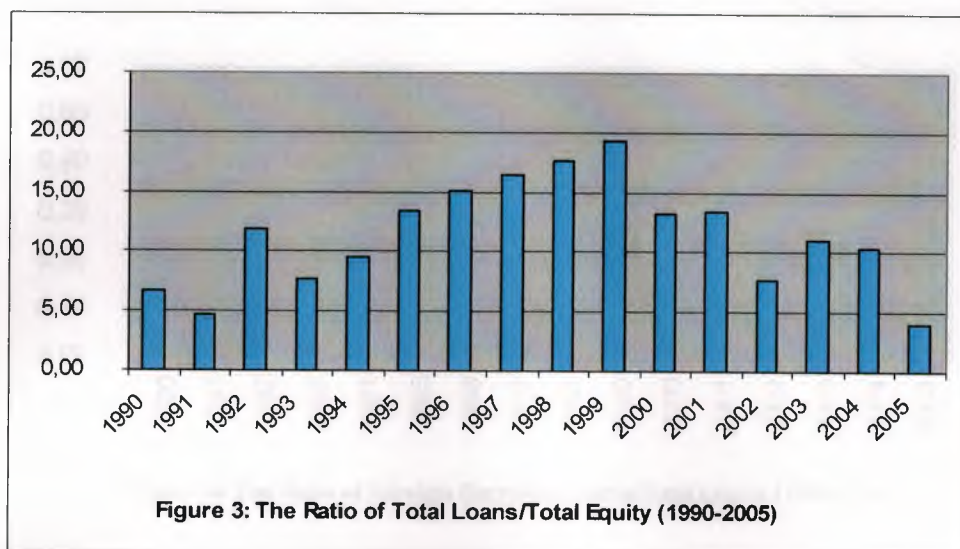
As far as the risk is concerned from the banks point of view, it can be said that banks will be more in the position of being selective because the borrowers might not be able to repay back their loans. Therefore, the risk of not recovering the credits generally may financially weaken the lenders.

The other indicator of the credit risk is the ratio of the total credits to the equity capital of the lenders. As seen from the table and the related chart, until the year of 1999 there was an increasing trend in the ratio, which means that the lender positions enabled the lender to borrow less and maintain their ability to recover their credits. However, as from that period on, the lenders started to decrease their reliance on their own sources but rather they began relying proportionally more on the external credits. This situation created risk for the companies or borrowers as well as the lenders because the lenders might have such risk of not getting their advances recovered.

Table 4: The Ratio of the Total Credits to Total Equity Capital

<u>Years</u>	<u>Total Credits / Total Equity Capital</u>	<u>Years</u>	<u>Total credits / total equity capital</u>
1990	6.65	2000	13.28
1991	4.70	2001	13.36
1992	11.93	2002	7.76
1993	7.64	2003	11.00
1994	9.57	2004	10.47
1995	13.52	2005	7.96
1996	15.12		
1997	16.49		
1998	17.67		
1999	19.33		

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS



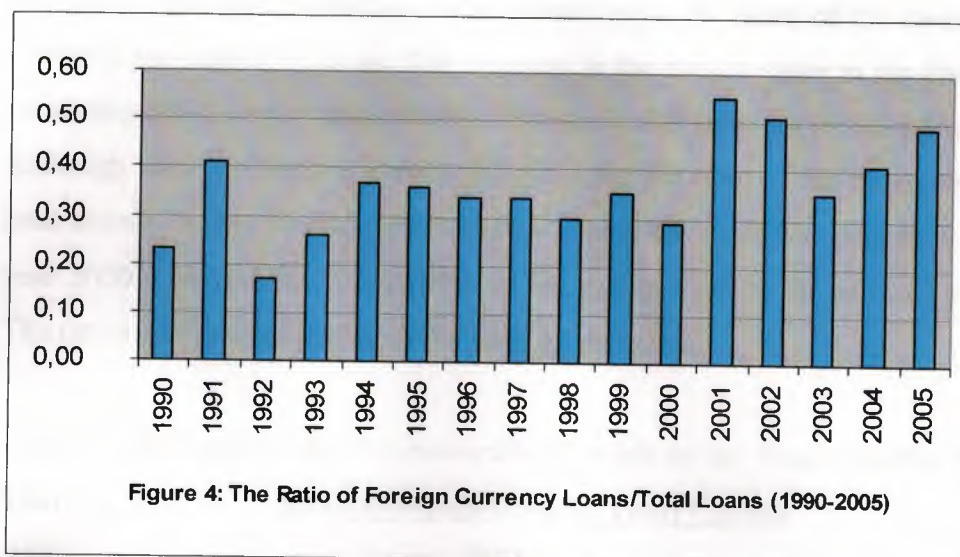
Source: TRNC Central Bank

One of the other indicators of the credit risks is the ratio of the foreign currency credits to the total credits used. This causes a risk on the foreign exchange rates in the country. This situation leads to the increase in the value of the foreign currency against the YTL because of the demand for foreign currencies. In the end, the rises in the level of inflation in the market would lead to higher interest rates which discourage the borrowers to use credit. Decrease in the use of credits would mean, for the banks, to have less amount of profits, thereby the risk automatically shows itself in the future activities of banks operating in the market.

Table 5: Ratio of the Foreign Currency Credits to the Total Amount of Credits Used

<u>Years</u>	<u>Foreign Currency Credits / Total Credits</u>
1990	0.23
1991	0.41
1992	0.17
1993	0.26
1994	0.37
1995	0.36
1996	0.34
1997	0.34
1998	0.30
1999	0.35
2000	0.29
2001	0.55
2002	0.51
2003	0.35
2004	0.41
2005	0.49

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS



Source: TRNC Central Bank

Currently, there is a risk in the said regard. The use of the YTL as a legal tender but the inability of the Central Bank of TRNC of not issuing bank notes and not having active role in emissions, this kind of risk is clear. Besides, the use of the foreign currencies in the market convertibly together with the YTL also has a easing effect on the credit risk, because the money can easily be converted to the other currencies. In normal functioning economies, though, this creates unfavorable effects for the inflation.

Regarding the TRNC market though, the most important credit risk that banks presently are facing is related to the real estate guarantee accepted against their loans and advances given out. As it is very well known fact that, due to the ownership problem arising because of the unsettled Cyprus political situation, banks are very much unwilling to give out credits unless the guarantees do not have any such risk.

Following the coming of the Anan's plan into the political agenda of TRNC, the concerned parties started to be so careful on the guarantees against loans and have been seeking for Turkish ownership on the real estate guarantees.

On the other hand, the crisis occurred during the year 2000, had negative effects on the credit utilization of the business circles. During this period, due to the reason that banks preferred to keep their liquidity positions as high as possible, there was some sort of artificial shrinkage in the credit portfolios. However, following the year 2002, because of the positive developments happened in the economy and the favorable exchange rates conditions prevailed in the market,

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

besides the decrease in the real credit interest rates, the share of the credits in the total assets of the sector started to go up. The increase in the credits share in the total assets has had an increasing effect on the significance of the credit risk issue for banks. (Aloğlu, 2005)

Although there are limited statistical figures for the ratio of the unrecoverable credits to the total amount of the credits distributed by banks, the available statistical figures as from the year 2000 indicated that there exists an increasing trend as far as this kind of risk involved. The ratios can be observed from the table given below:

Table 6: The Ratio of the Unrecoverable Credits to the Total Credits (2002-2005)

Years	<u>Unrecoverable Credits /Total Credits</u>
2000	0.04
2001	0.10
2002	0.08
2003	0.07
2004	0.06
2005	0.08

To summarize the impacts of the credit risks, the following discussions and points are accordingly emphasized:

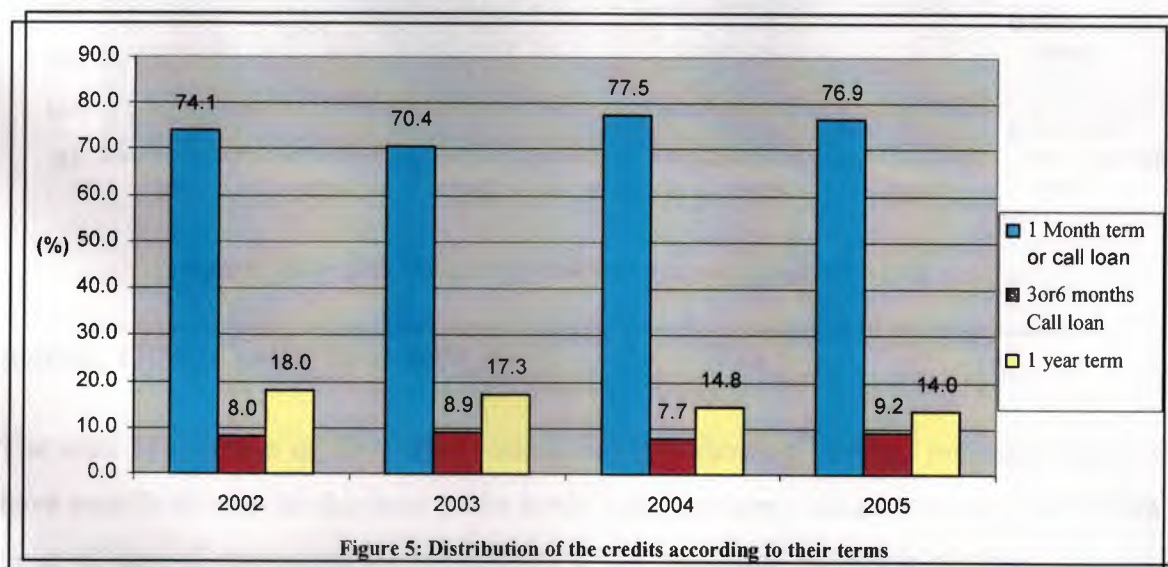
- As a result of the lost credits that are to be met by the use of the owned sources or equities and therefore the ratio of the total allocated equities to the total assets leads to the decrease in the equity capitals thereby increase in the risk. If this ratio decreases that would mean that the risk gets decreased. Especially during the peak times of crises this risk also increases to the peak point as well.
- When the share of the total own sources of banks in the total credits given out increases that would mean that the capacity of meeting the losses from own sources drops. As seen, after 1990's in TRNC this capacity of using the own sources started to drop.
- The increase in the total assets of banks would mean a positive result for the banks because their asset structures get strengthened.
- The increase in the ratio of the total loans to total deposits would mean an increase in the credit risk because banks should keep some amount of safety for other risks. Therefore, there must be a balance in the usage of the deposits depending upon the

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

position of those lender banks involved. In the table given above it is observed that for the years 1999 and 2000 this risk increased. On the other hand, if those loans do not turned out to be investments for the economy that would mean to be loss for the overall economy. (Gür, November 2004)

2.3.2. The Disharmony between Credits and Deposits

In the sector it has been observed that the maturity dates of credits have extended depending upon the ameliorations occurred in the economy. Especially, it has been observed that the terms for the house construction credits have been extended up to 15 years, whereas for the vehicle purchasing they have been extended up to 5 years. While this situation is considered as good due to easing the recovery capability of the credit on the one hand, it also cause disharmony between the assets and liabilities on the other hand (TRNC Central Bank 2006, p. 66), such that; the terms of deposits are shortened while the terms of credits are extended. As seen from Figure 5, “the one month termed credits in the year 2002 constituted 74.1%” it raised to 67.9% in 2005, but the one year termed credits for the year 2002 had the share of percentage in the total credits as 18% and this percentage for the t-year 2005 decreased to 14 %. Within the frame of administering the assets and liabilities, this situation gives a contrasting picture for the matching principle of debit and credit.



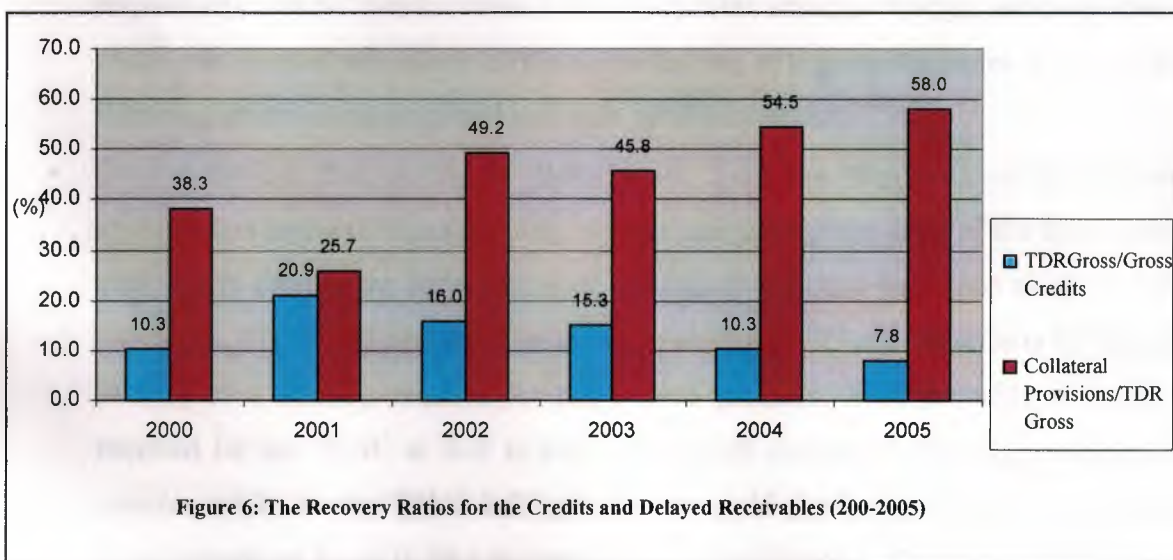
Source: TRNC Central Bank

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS



3. CONCLUSIONS AND IMPLICATIONS

When a retrospective evaluation is made towards the credit risk pertaining to the banking sector in TRNC, it is understood that especially the Turkish origin banking crisis taken place during the period of 1999-2000 had a considerable unfavorable contribution to the credit risk, such that; during the said period the ratios that are used as the fundamental indicators in measuring the credit risks such as; total credits/total deposits, total credits/total equity and foreign currency deposits/total credits, appeared to have excessive increases in the said years. Following the crisis though, the restructuring realized in the banking sector of TRNC causing decreases in these ratios showed that the credit risk has declined. From the points of view of the recovery ratio of the credits and the collateral provisions put aside for the delayed receivables, are shown as in Figure 6. The recovery ratio of the credits during those crises years appeared to be 20.90% while for the year 2005 this ratio dropped to the minimum level of 7.76%. Despite this, the collateral deposits put aside for the delayed receivable credits had an increasing realization of trend for years.



Source: TRNC Central Bank 2006, p. 67.

The state of the ratio of the sector's assets to GNP showing increase meaning that it could have contribution to the decrease in the credit risk, has been a positive development from the point of view of preventing the breakability of the sector and procuring stability.

In spite of the positive developments observed in the credit risk management, it might be possible to give the measures that are seen to be taken in this respect as follows;

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

- To develop proactive strategy in harmonizing the terms structure for credits and deposits.
- Not only the increase of the total foreign currency credits within the total amount of the credits observed during the latest years indicates the increase of the credit risk but it also increases the foreign exchange risk within the scope of “uncovered interest arbitrage”. The increase of tendency towards this direction puts the sector in a risky position.
- It is required that necessary attention is also given to the structure of measure in the sector when decreasing the credit risk is the case. For the first five banks that constituting the 71.82% of the total amount of credits for the year of 2005, the recovery ratios and the ratios of the total credits to deposits were realized as 6.06% and 58.9% respectively. On the other hand, for the first ten banks constituting 89.70% of the total credits, these ratios were realized as 7.31% and 47.92% respectively. For the total of the sector, on the other hand, the said ratios were 7.76% and 43.19% respectively (TRNC Central Bank 2006, p.67). This situation though, indicates that the credit risk is relatively lower at the banks having structured measures whereas, their financial effectiveness is considered to be relatively higher.
- Despite the fact that, during the latest years, there has been positive developments towards decreasing of the credit risk, as indicated through the ratio of the total credits / total equity capital, the requirement of the capital structure happened to come out in two ways.. These are; preparing for the membership to EU and the criteria for Basel II. In case of a solution reached for the Cyprus problem, most probably it would be required for the TRNC as well to adjust its capital structure to the EU principles and policies, while for the TRNC banking sector it would also be inevitable to adjust itself to the criteria of Basel II, like the banking sector in Turkey.. The amount of the initial capital requirement for establishing a new bank in the TRNC has now, according to the new legislation that is in force as from 14th February 2001, been increased from 50 thousand New Turkish Liras to 2 million US dollars. In comparison, this amount in Southern Cyprus is 3 million Cyprus pounds (*Banking Laws of the GCA, 66(1)/1997, Art 20.21*) and for the new financial institutions operating within the European Union, is 5 million Euros (Şafaklı 2003).
- The European Union is planning to implement the rules of Basel II, as from the year 2007, for all banks and securities, stocks and bonds companies. The preparatory stage

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

of Basel II should be taken in conformity with the European Union standards. Conformity to Basel II will indirectly procure the conformity to the EU standards. According to the “club rule” criterion taken place in Basel I and stating the principle of conformity whether or not the country involved is of an OECD member country, has been removed together with the emerge of the Basel II principles. The credit risk in Basel II is determined according to the graded scores of the receiver of the credit. While some of the methods and procedures taken place in Basel II are being used by the independent grading companies (e.g.: Standards and Pools, Fitch, Moody’s and the like companies), in some advanced methods and procedures the grading made by banks based on their own scoring are taken into consideration, subject to the permission of the banking auditing authority. In Basel I, capital obligation exists only for the credit and market risks. Whereas in Basel II, the operational risk and capital obligation risk have also been added to those risks. In Basel II, the operational risk is defined as; the risk of loss that would come out as a result of the inadequate or hitch internal processes, employees or systems or external events (for instance, the losses come out as a result of; the errors in debit recording, earthquake, the errors in computer processes) and thus banks are asked to have capital collaterals for those risks. In Basel II, banks are asked to evaluate their own adequacy by themselves and both the capital adequacy and the banks evaluation of themselves are required to be audited and evaluated by the banking controlling authority. Regarding the capital adequacy within the scope of Basel II, the detail information pertaining to the bank involved to be publicly announced, has been brought as an obligation. . This issue does not take place in Basel I. (BIS 1999; BIS 2004; BIS 2005; BIS 2006; Lowe 2002; BDDK 2005, p. 2).

- With the introduction of the implementation of Basel II, will cause decreases in banks capital adequacy. The obligation of having capital collaterals against the operational risks, will cause to increase the minimum capital requirements, for banks. Therefore, in Basel II, beside the obligation of raising the capital requirement to international standards, banks are also obliged to set up their own internal models and the credit and operational data bases. In order to procure this, it is required that technological and intellectual infrastructure is improved, and, within the frame of announcing the necessary information to the public, a transparent and healthy database management system is set up.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

Beside strengthening the capital structure of the banking sector of the Turkish Republic of Northern Cyprus, when one considers the positive effect of the financial consolidation and focus requirements brought by the international competition, the encouragement of the joining together and overtaking processes to be taken place among banks, come out as a constructive proposal.

It would be inevitable for the banks in Northern Cyprus to face many difficulties including the credit risk, throughout the periods ahead that no political settlement is foreseeable. Soon after a solution reached for the Cyprus Issue, standards of the banking sector will eventually be improved. So, for the time being the most important danger that banks will face is weak financial positions of the small scale banks operating in the TRNC market. Not only these banks have high credit risks but they also have no power of competing with other large banks that have large equity capital and high profitability.

The country's being politically unrecognized, constitutes a handicap for the banks as well. Therefore, being not integrated with the world banking system would be the main source of problems and risks including the credit risk.

Furthermore, the ownership problem on the real estates in the country causes banks' acting reluctantly in accepting those real estates as guarantee against loans. Banks forced themselves to be selective in distributing credits and thus inevitable shrinkage in their portfolio of credits causes credit risk to surge up.

The banks crisis taken place during the year 2000 was as the result of the shortage of liquidity and overusing of the legal deposits kept at the Central Bank. In other words, the ratio of credits to deposits was too high and that duly created a risk leading to the crisis. The Central Bank in fact should have the duty and responsibility to have necessary control on all the commercial banks operating in the market. Moreover, the Central Bank has to direct the entire banking sector towards more modern and integrative systems. Lately, the necessary amendments in the Laws and Regulations have been completed for the purpose of having more effective controls on banks.

In addition to above, the risk management should be seriously considered by the banking circles, otherwise, any external threat or crisis may create unfavorable threats and risks for the

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

entire system. In this connection, banks operating in TRNC are to apply necessary measures for the establishment a well oriented and operational credit risk system, credit risk measuring system, and controlling and monitoring system. They should also allocate sufficient collaterals to meet the probable risks.

The structural transformation that will hopefully be imposed by the EU standards would enable better operational systems in the banking sector. The investment requirements for modern banking operations should be considered with the coverage of short term liquids.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

REFERENCES

- Aloğlu, Z. (2005), “*Bankacılık Sektörünün Karşılaştığı Riskler ve Bankacılık Krizleri Üzerindeki Etkileri*”, Uzmanlık Yeterlilik Tezi, TC Merkez Bankası Bankacılık ve Finansal Kuruluşlar Gn. Müdürlüğü, Ankara.
- BDDK (2005), *10 Soruda Yeni Basel Sermaye Uzlaşısı (BASEL II)*, BDDK Araştırma Dairesi – Ocak 2005.
- BIS (1999), *Principles for The Management of Credit Risk*, Risk Management Group of the Basel Committee on Banking Supervision, Bank For International Settlements, July 1999.
- BIS (2004), *Implementation of Basel II: Practical Considerations*, Basel Committee on Banking Supervision, Bank For International Settlements, July 2004.
- BIS (2005), *Sound Credit Risk Assessment and Valuation for Loans*, Basel Committee on Banking Supervision, Bank For International Settlements, November 2005.
- BIS (2006), *International Convergence of Capital Measurements and Capital Standards*, Basel Committee on Banking Supervision, Bank For International Settlements, June 2006.
- Berk, N. , (2001), “*Bankacılıkta Pazara Yönelik Kredi Yönetimi s.218*”, Beta Yayınları, 3. Baskı, İstanbul.
- Casu B, Girardone C, Molyneux P. (2006), “*Introduction to Banking*”, Pearson Education Ltd., England.
- Çelik, P. (2004), “*Bankaların Risk Derecelendirmesi s.103*”, Uzmanlık yeterlilik Tezi, TC Merkez Bankası Bankacılık ve Finansal Kuruluşlar Gn. Müdürlüğü, Ankara.
- Karatepe Y., (2002), “*Bankalarda Kredi Risk Yönetimi*” Ankara Üniversitesi Siyasal Bilgiler Fakültesi –Ankara
- Lewis M. K. , David K. T., (1987), “*Domestic and International Banking p. 353*”, Philip Allan, Great Britain.
- Lowe, P. (2002), *Credit Risk Measurement and Procyclicality*, BIS Working Papers No 116, Monetary and Economic Department, Bank For International Settlements ,September 2002.
- Öçal T., Doç Dr. Çolak Ö., (1999), “*Finansal Sistem ve Bankala s.123r*”, Nobel yayın Dağıtım, Ankara.
- Rose, P. (2002), “*Commercial Bank Mangement p. 165*”, 5th edition, Mc Graw Hill, North America,
- Şafaklı, O., (2003) “The Analysis of Banking and Financial Crises: Case of TRNC”, *Second Global Conference on Business & Economics*, July 5-7, Imperial College South Kensington Campus, London, England.

CREDIT RISK ANALYSIS IN NORTHERN CYPRUS

Şafaklı, O (2006), “Avrupa Birliđ Üyeliđi [Türk Bankcılık Sektörünün Gölgesindeki] KKTC Bankacılık Sektörü İçin Tehdit mi, Yoksa Fırsat mı?, Ed. İ. Kalaycı, *Türkiye-Avrupa Birliđi İlişkileri Üzerine Ekonomi-Politik Tezler*, Beta yayınları, İstanbul.

Teker, D. , (2006), “*Bankalarda Operasyonel Riskyönetimi s.3*”, Literatür Yayıncılık, İstanbul.

TRNC Central Bank (2006), *2005 Year Report*, Nicosia – Northern Cyprus.

USIAD (2006), “Management and Risk Analysis(Pilot) June 2006 Edition”, *EDGE, TRNC*.