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CREDIT RISK ASSESMENT FOR THE BANKING SECTOR OF NORTHERN CYPRUS

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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 Northern Cyprus. When examined retrospectively, it is observed that the credit risk had a determining 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 credit risk of banking sector as a whole. 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 regulatory and supervisory stage of credits that no provision for loan losses 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. Furthermore, necessary preparations of technological, administrative, know-how and qualified personnel should be made in accordance with Basel II framework.

Keywords: Northern Cyprus, Credit Risk, Retrospective Assessment

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. In this respect, the study is devoted to the retrospective assessment of credit risk of banking sector in Northern Cyprus. In connection with the credit risk, correlative relationships between credit risk indicators and

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economic indicators for the period of 1990-2004 have been statistically examined. Furthermore, the administrative and legal arrangements and also the balance sheet items 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 Northern Cyprus has been put forward. The assessments made in the Northern Cyprus about the credit risk are considered in the third section of the study. The conclusions and recommendations of the study, on the other hand, take the final part.

I. The Concept of Bank Credit Risk

Bankers are concerned with six main types of risk. These are credit risk, liquidity risk, market risk, interest rate risk, earnings risk and solvency risk (Rose 2002, p. 165) that can be grouped as credit risk, market risk and operational risk (Teker 2006, pp. 3-8). Furthermore, currency risk, country risk and cross-border risk should be considered when international lending is the subject matter (Lewis and Davis 1987, pp. 353-356; Hughes and MacDonald 2002, p. 297). Among these risks credit risk plays the major role since by far the largest asset item is *loans,* which generally account for half to almost three-quarters of the total value of all bank assets. The probability that some of a bank's assets, especially its loans, will decline in value and perhaps become worthless is known as credit risk (Rose 2002, p. 115, 165). According to Basel Committee on Banking Supervision, credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. The goal of credit risk management is to maximise a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. 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 organisation (BIS 1999, p. 4). Genrally, 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 (Casu at al 2006, p. 259).

If internal data are available, credit risk can be monitored by looking at the changes in the ratio: medium –quality loans / total assets ratio. 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 (Casu at al 2006, p. 260; Rose 2002, pp. 165-166; Çelik 2004, pp. 104-105; Babuşcu 1997; Bratanovic and Greuning 2000; Aloğlu 2005, p. 139; BDDK 2006, pp.6-15):

- 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
- The ratio of total loans to total deposits
- The ratio of nonperforming assets to total loans and leases
- The ratio of net charge-offs of loans to total loans and leases
- The ratio of the annual provision for loan losses to total loans and leases or to equity capital
- The ratio of allowance for loan losses to total loans and leases or to equity capital
- The ratio of nonperforming loans to nonperforming loans and equity capital
- The ratio of the foreign currency loans to the total loans.

In addition to bank credit risk indicators above which are subject to criticism because they lag in time behind the returns gained by taking higher risks analyst should look at lead indicators as: loan concentration in geographic areas or sectors; rapid loan growth; high lending rates; and the ratio of loan loss reserves to non-performing loans (NPLs) (Hempel and Simonson 1999).

II. The Case of Northern Cyprus 2.1. Banking Structure

There are 23 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. Along with the 23 local banks, there are 18 off-shore banks operating in the Northern Cyprus. Most of the off-shore banks are owned and operated by their parent banking corporations headquartered in Turkey. As seen from Table 1, as of December 2005, the total number of the banks operating within the boundaries of Northern

Cyprus, is comprised by 1 State bank, 2 cooperative banks, 6 foreign branch banks, 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).

Table 1: Distribution of Commercial Banks in Northern Cyprus (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

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 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 economy of Northern Cyprus. According to the distribution of the sector's GDP share in which the other 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. The Role of Credit Risk in the Banking Crisis of Northern Cyprus

Before concetrating on the retrospective assesment of credit risk for the banking sector of Northern Cyprus, the role of credit risk in banking crisis of the said banks is appropriately noted. 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 Northern Cyprus. The spark that leads to an explosion of banks

collapsing was panic. 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. 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 DIF. The 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 Northern Cyprus. 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 16 th 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 (Şafaklı 2003).

2.3 Retrospective Credit Risk Assessment of Banking Sector in Northern Cyprus The basic credit risk indicators of which graphical illustrations will be observed are “total loans/total assets”, “total loans/total deposits”, “total loans/total equity”, “foreign currency loans/total

loans", "Turkish lira loans/foreign currency loans" and "total equity/total loans".

The ratios of "total loans/total assets" and "total loans/total deposits" that are the indicators of both credit risk and the efficiency of financial intermediation almost increased from 1993 up to 1996, but started decreasing after that year as shown in Figure 1. From the viewpoint of credit risk this can be explained favorably. However, this trend negatively affected financial efficiency. That is to say, allocating deposits largely to investments such as treasury bills, repos and other securities became more attractive than canalizing deposits into loans for real investments when compared in terms of risk-return tradeoff.

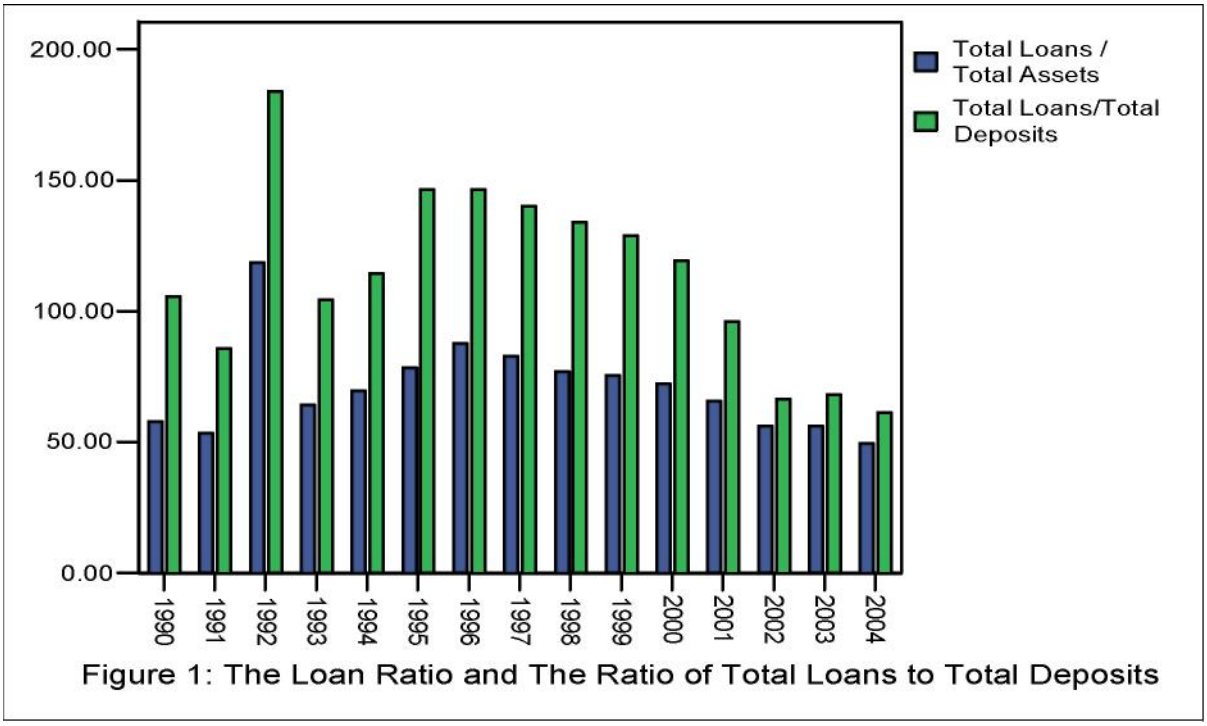

Figure 1: The Loan Ratio and The Ratio of Total Loans to Total Deposits

Source: TRNC Central Bank

Another indicator of credit risk clarifying the capacity of bank capital to absorb the loan losses is the ratio of "total loans/total equity". From 1993 up to the beginning of banking crisis this ratio increased showing the deterioration of the said capacity. After 1999 necessary measures taken led to the decrease of this ratio. This clearly shows the role of credit risk in the banking crisis.

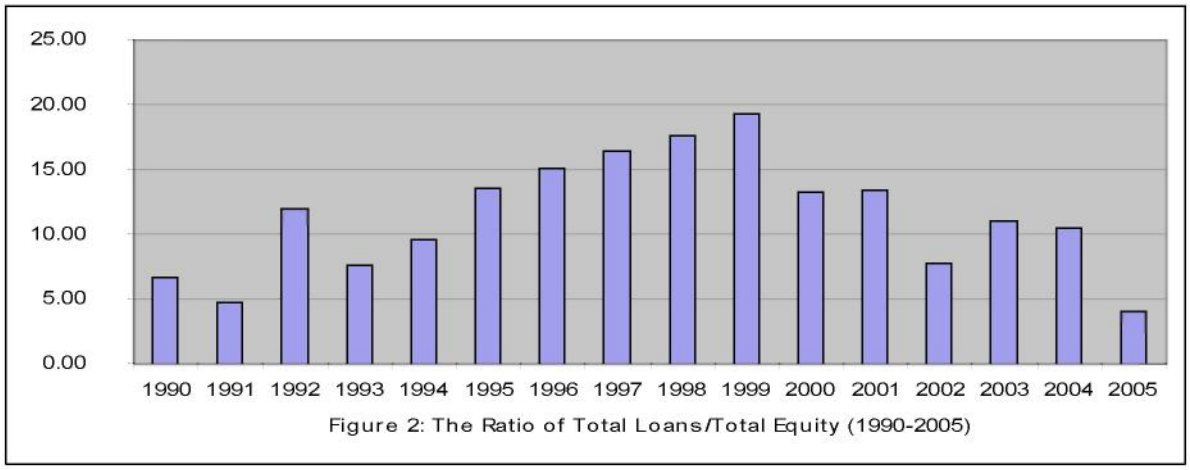

Figure 2: The Ratio of Total Loans/Total Equity (1990-2005)

Source: TRNC Central Bank

When currency denominations of loans are examined in Figure 3, foreign exchange risk related to loans and thus credit risk started to increase after banking crisis. This finding is evidenced by both the increase of the ratio of "foreign currency loans/total loans" and decrease of ratio of "Turkish lira loans/foreign currency loans". This position shows that banking sector of Northern Cyprus is currently subject to foreign exchange risk and credit risk that shouldn't be neglected.

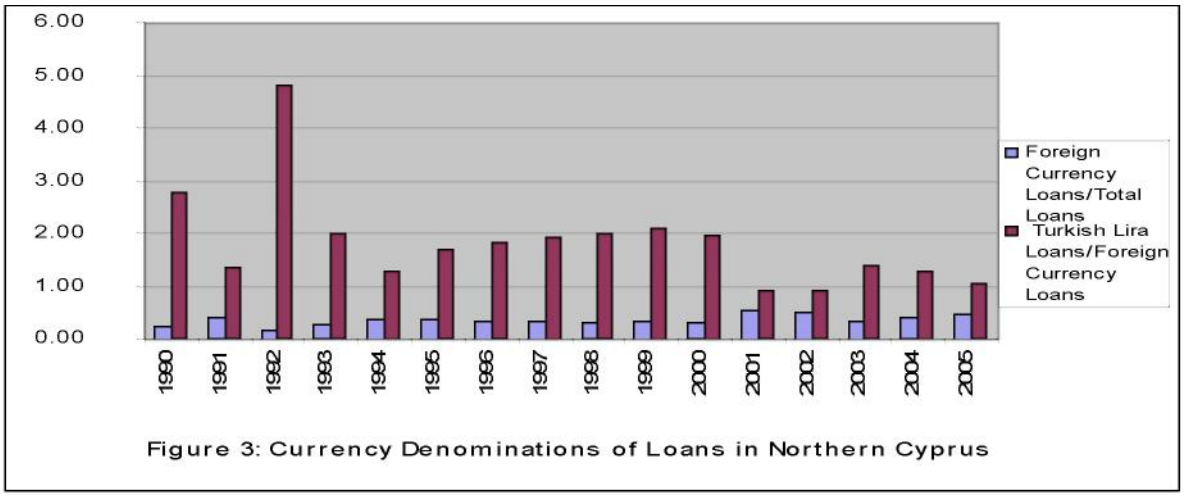

Figure 3: Currency Denominations of Loans in Northern Cyprus

Source: TRNC Central Bank

Finally the ratio of "equity/total assets" should be cited. This ratio just like the "total loans/total equity" ratio shows the capacity of bank capital to absorb the loan losses. As shown in Figure 4, same pattern seen Figure 2 is also observed. The ratio declined until the beginning of banking crisis and roughly started to increase after 1999. That is to say, the said capacity continuously deteriorated by the time that crisis started. This expressly reveals that weakening capacity to absorb loan losses contributed to the banking crisis.

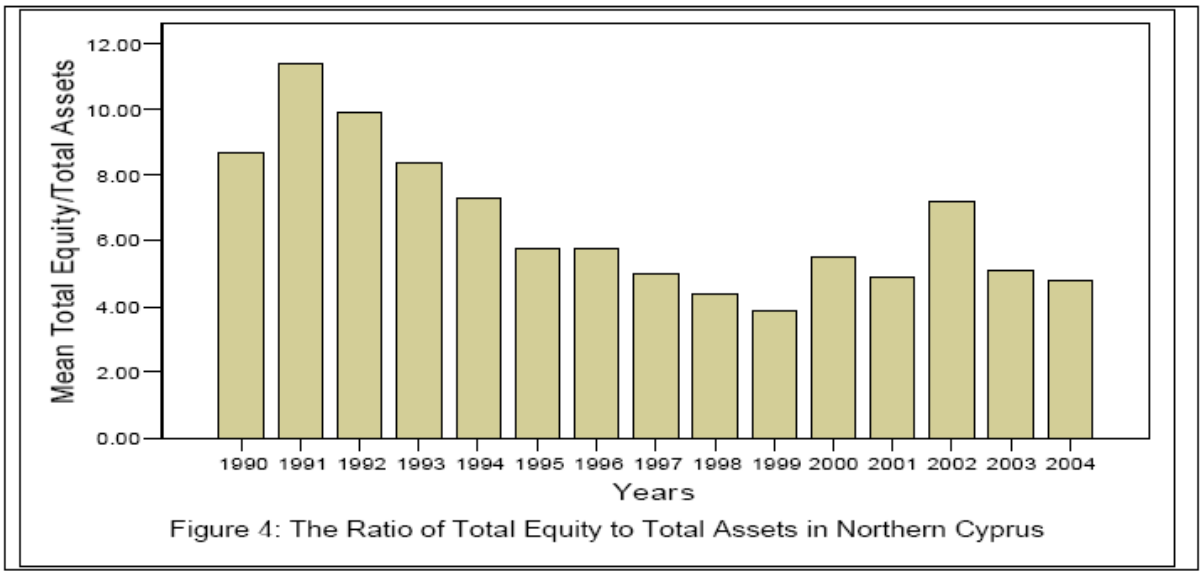

Figure 4: The Ratio of Total Equity to Total Assets in Northern Cyprus

Source: TRNC Central Bank

2.4. The Disharmony between Credits and Deposits

In recent years, regarding the credit structure of banking sector in Northern Cyprus it has been observed that the maturity dates of loans have been increased depending upon the ameliorations occurred in the economy. Especially, the date of maturity for the house construction credits have been extended up to 15 years, whereas for the vehicle loan they have been extended up to 5 years. Even though this structure is considered as appropriate 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, while "the sum of one month termed deposits and call deposits in the year of 2002 constituted 74.1%" it increased to 76.9% in 2005. However, on the other hand while the share of the one year termed deposits for the year of 2002 was 18%, this percentage for the year of 2005 decreased to 14 %. This structure is absolutely contrary to the matching principle of asset – liability management.

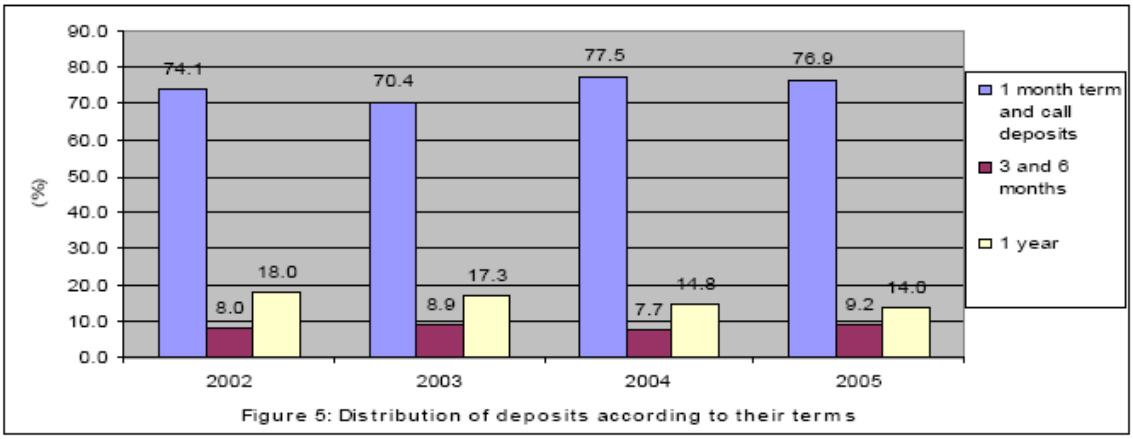

Figure 5: Distribution of deposits according to their terms

2.5 Correlation between Credit Risk Indicators and Economic Indicators

In this part a study covering the period between 1990 and 2004 is conducted to examine if there are statistically significant correlations between credit risk ratios and basic economic indicators. In this respect, basic credit risk ratios are "total loans/total assets", "Non- Performing Loans/Total Loans", "Total Loans/Total Deposits", "Total Equity/Total Assets", "Total Loans/Total Equity", "Foreign Currency Loans/Turkish Lira Loans", "Annual Provision for Loan Losses/Non-Performing Loans", and "Total Assets/Gross National

Product". On the other hand, basic economic indicators used in the study are "inflation rate", "real growth rate of GNP", "real growth rate of investments", "export/import", "percentage change in budget deficit", "real lending interest rate" and "real effective exchange rate" as shown in Table 2. As shown in the table only two correlations proved to be statistically significant. These are;

- High negative correlation (-.914) exists between "Non-Performing Loans/Total Loans" and "Real Effective Exchange Rate (1995=100)". Most probably "non-performing loans" relative to total loans increase when the competitiveness of country decreases. Because, this will decrease exports, production and thus debt payment capacity of firms.
- There is a negative correlation (-.627) between "Total Assets/Gross National Product" and "Export/ Import (%)" ratio. This shows that total assets of banking sector relative to GNP increases when export/import ratio decreases. However, it is hard to explain the theoretical foundation of this correlation

		Inflation Rate	Real Growth Rate of GNP (%)	Real Growth Rate Of Investments (%)	Export/ Import(%)	Percentage Change in Budget Deficit	Real Lending Interest Rate (%)	Real Effective Exhange Rate (1995=100)
Years	Pearson Correlation	-.432	.380	.241	-.692(**)	-.358	.576(*)	.625(*)
	Sig. (2-tailed)	.108	.163	.387	.004	.189	.025	.013
	N	15	15	15	15	15	15	15
Total Loans / Total Assets	Pearson Correlation	.265	-.024	-.094	.315	-.148	-.029	-.368
	Sig. (2-tailed)	.339	.933	.738	.253	.598	.919	.177
	N	15	15	15	15	15	15	15
Non-Performing Loans/Total Loans	Pearson Correlation	.315	-.273	-.189	.322	.080	.388	-.914(*)
	Sig. (2-tailed)	.606	.657	.760	.597	.899	.518	.030
	N	5	5	5	5	5	5	5
Total Loans/Total Deposits	Pearson Correlation	.377	-.150	-.166	.460	.082	-.103	-.484
	Sig. (2-tailed)	.166	.595	.554	.084	.771	.715	.067
	N	15	15	15	15	15	15	15
Total Equity/Total Assets	Pearson Correlation	.089	-.280	-.196	.409	.147	-.446	-.311
	Sig. (2-tailed)	.753	.312	.485	.130	.601	.095	.260
	N	15	15	15	15	15	15	15
Total Loans/Total Equity	Pearson Correlation	.060	.127	.061	-.123	-.094	.393	.014
	Sig. (2-tailed)	.833	.651	.829	.663	.739	.147	.961
	N	15	15	15	15	15	15	15
Foreign Currency Loans/Turkish Lira Loans	Pearson Correlation	-.047	-.261	-.185	-.177	-.161	.187	.040
	Sig. (2-tailed)	.867	.348	.509	.527	.566	.504	.887
	N	15	15	15	15	15	15	15
Annual Provision for Loan Losses/Non-Performing Loans	Pearson Correlation	-.054	-.358	-.563	.332	.074	.346	-.012
	Sig. (2-tailed)	.966	.767	.619	.785	.953	.775	.992
	N	3	3	3	3	3	3	3
Total Assets/Gross National Product	Pearson Correlation	-.227	.398	.241	-.627(*)	-.317	.437	.507
	Sig. (2-tailed)	.416	.141	.386	.012	.250	.104	.054
	N	15	15	15	15	15	15	15

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

III. Conclusions and Implications

When a retrospective assessment is made towards the credit risk pertaining to the banking sector in Northern Cyprus, it is understood that the credit risk had a considerable unfavorable contribution to the Turkish origin banking crisis taken place during the period of 1999-2000. Fundamental credit risk indicators support this conclusive evaluation. Such that; during the said period the credit risk ratios such as; total credits/total deposits, total credits/total equity and foreign currency deposits/total credits, appeared to have excessive increases. Following the crisis the credit risk showed noticeable decline due to the structural and administrative measures as evidenced by the ratios of "non-performing loans/total loans" and "provision for loan losses/ non-performing loans" shown in Figure 6. Just after the crisis (2001) the ratio of "non-performing loans/total loans" appeared to be 20.90% while for the year of 2005 this ratio favorably dropped to the minimum level of 7.76%. Despite this, "provision for loan losses" compared to "non-performing loans" displayed the same favorable trend.

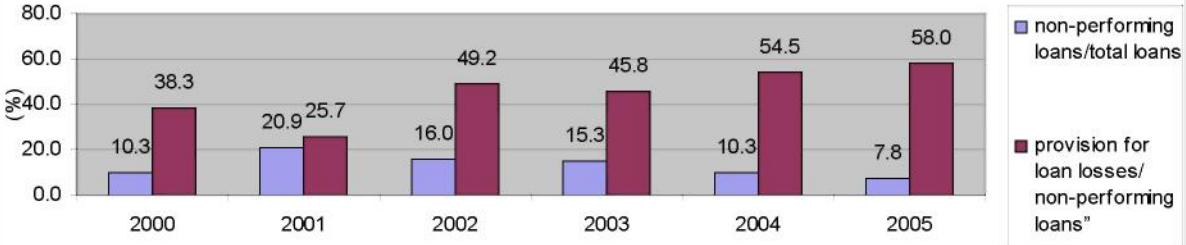

Figure 6: Ratios of "non-performing loans/total loans" and "provision for loan losses/ non-performing loans" (200-2005)

Source: TRNC Central Bank 2006, p. 67.

In spite of the positive developments observed the following reactive and proactive measures are recommended regarding the credit risk management:

- As part of the proactive strategic management term structure of loans and deposits should be harmonized.
- 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".

This foreign exchange rate risk can be hedged especially through off-balance sheet item such

as forward, options and swap agreements.

- Special attention should also be given to scale structure in the banking sector so as to manage credit risk. For the first five banks that constituting the 71.82% of the total amount of credits for the year of 2005, the ratios of "non-performing loans/total loans" and the "total loans /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 sector as a whole, 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 due to increased scale structure 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 credit risk, as indicated through the ratio of the total credits / total equity capital, the requirement of the stronger capital structure happened to come out in two ways. These are; coming into line with the acquis of European Union (EU) and meeting the criteria for Basel II. It should be pointed out that EU also officially applies almost all aspects of Basel framework. In case of a probable solution to the Cyprus problem, Northern Cyprus will inevitably take necessary measures to comply with the EU principles and policies, and 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 14 th 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 La ws 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 EU is planning to implement the new capital accord (Basel II), as from the year 2007, for all banks and related companies companies. The preparatory stage 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. The new Accord's main aim is to introduce a more comprehensive and risk sensitive treatment of banking risks to ensure that regulatory capital bears a closer relationship to credit risk. Under Basel II, banks will be able to choose between what is known as the "standarised approach" and the Internal Ratings-based (IRB) approach. In the standarised approach the new Accord defines risk

weights within broad categories of sovereigns, banks and companies, by reference to an external credit assessment firm (credit rating agency) subject to strict standards. Under IRB, banks are allowed to use their internal credit assessments subject to strict methodological and disclosure requirements. According to the new Accord operational risk defined as the risk associated with the potential for systems failure will be added to the market risk and credit risk. Banks are also required to hold capital against operational risk. In addition to risk-weighting scheme, proposed Accord rests on two other 'pillars', namely improved supervision aimed to ensure that bank's capital adequacy position is consistent with its overall risk profile and enhanced market discipline requiring banks to provide more reliable and timely information enabling market participants to make better risk assessments (BIS 1999; BIS 2004; BIS 2005; BIS 2006; Lowe 2002; BDDK 2005, p. 2).

- Implementation of IRB will force the banks to develop their 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.
- Beside strengthening the capital structure of the banking sector of Northern Cyprus, intense international competition and globalization brought the positive effect of the financial consolidation in the foreground. Because of the consolidation, productivity and efficiency of most banks will increase due to economies of scale and economies of scope. Therefore, the encouragement of the mergers and acquisitions to be taken place among banks, come out as a constructive proposal
- Furthermore, the ownership problem on the real estates in the country causes banks' acting reluctantly in accepting those real estates as collateral 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.

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