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Financial ratio analysis and test of bankgrupsy of the bank of Cyprus public company limited

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FINANCIAL RATIO ANALYSIS AND TEST OF BANKGRUPSY OF

THE BANK OF CYPRUS

PUBLIC COMPANY

LIMITED

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REPORT

ON

FINANCIAL RATIO ANALYSIS OF

BANK OF CYPRUS PUBLIC COMPANY LIMITED

Dissertation

Advisor

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ABSTRACT

This study examines the changes in the ratio analysis of banking activities and testing with Z-score the effect of bankrupts comparing with the Marfin Popular Bank of Cyprus over the last years, focusing on the effects of the financial crisis of 2007. The valuation analysis of this study recognizes that banks create value through the types of assets and liabilities that they create and the various types of risk they undertake including their leverage, their lending risk, and their interest rate risk. The ratio analysis is on the base of income statements and annual reports of the Bank of Cyprus Public Company.

This research finds that the declines in bank stock values since 2007 reflect declining values of various categories of banking activity and changes in market conditions. Dividend payments matter for market values increasingly over time. "Carry-trade" effects from taking on interest rate risk are also apparent. The effects of leverage on bank valuation changed sign during the crisis while the market rewarded high leverage with higher market values prior to the crisis, leverage became associated with lower values during and after the crisis. Contrary to the view that the declines in values for BOCY bank from 2004-2011 mainly reflect unrecognized losses, we find that other factors explain most of the decline in ratios such as the bad management. Although results of financial ratio analysis had changed over time, more than what was excepted and especially for 2011 of the change in values that raised from 2007 to the end of 2011 were predictable based on changes in financial crisis and the case of exposure of BOCY to Greece's bonds. A comparison of key indicators of Bank of Cyprus with Laiki Popular Bank validates that our gowns is reducing the banking system. This forecast and the implementation of the Z-Score, where with a probability of 75% -90% the Bank of Cyprus will go bankrupt. The salvation of the banking system of Cyprus is the direct lending and this fact is where all of our hopes rest.

Dedication

To my parents……

ACKOWLEDGMENTS PAGE

As a part of my completion of the Master Degree in Banking, Investment and Finance program, for our department I had been assigned to prepare a dissertation. My dissertation is on the topic **"Financial Ratio Analysis of Bank of Cyprus Public Company Limited"** which is based on my final fourth quarter of the programme's lessons.

I am greatly indebted to my Supervisor **Professor Giannopoulos Kostas** for giving me the valuable guidelines, suggestions and information for the report.

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LIST OF ACRONYMS

FULL FORM	ACRONYM
BANK OF CYPRUS PUBLIC COMPANY LIMITED	BOCY
RETUR ON EQUITY	ROE
RETURN ON ASSETS	ROA
EARNININGS PER SHARE	EPS
PRICE EARNINGS	P/E
MARFIN POPULAR BANK	CYPB

CHAPTER 1

INTRODUCTION

Banking is one of the mainly vital manners in order to ensure the flow of money in the market. To understand the banking performance, it has been selected the Bank of Cyprus Public Company to carry out research on its performance and estimation within a number of years. The objective of the study is to analyse the Bank of Cyprus by financial ratio analysis and examine the effect of bankrupts. The main idea for the subject was created when Cyprus's economy was just faced with the financial crisis. At that time, the Bank of Cyprus Public Company was not in danger or at least nothing was published. Bank of Cyprus Limited (BCL) deposits of customers has reached a vast amount of 29.654 million (€) balances and 805 million (€) as net profit (pre-tax) during 2011 with a 92% growth rate in deposits in comparison with an average 112% of the European banks. Since 2008, with the onset of the crisis, the group has increased its deposit base by 6%. In Cyprus, during the last two years, the Bank of Cyprus has attracted the majority (53%) of new deposits and 11% increase growth rate in net profit (pre-tax) over the year 2010(Annual Report, 2011). This great amount has been invested in different points to present industry loan, export-import finance, commercial lending, house-building finance and others. Having as an important effect the bank's significant performance over the years my main purpose is to prepare this study.

The major aim of this report is to estimate the Banking Performance through Ratios of the Bank of Cyprus Company Limited (BOCY) over the years in order to have an idea of the bank economy situation.

To be more specific the study has performed to find out the performance of BOCY over years through ratio analysis and then to estimate the future position of BOCY and finally to find out the cause behind BOCY's development or drawback of performance over years.

One of the most significant current discussions in legal and moral economy is the financial crisis of 2007 and the effects on the banks. In activity of an aggregative economy difficulty in financial market can cause a downturn on the basis that a financial crisis is a disruption to financial markets where by an unhelpful selection and moral hazard the problem can

become worse. As a result, the financial markets are unable to efficiently channel funds to persons who have the largely dynamic investment opportunities.

It is becoming increasingly difficult to ignore the 1929 which it was an unforgettable year. The cause was because after one big profiteer blooming in stock market the depression followed and that should be the end. In the autumn of 1929 the economy was well depressive. In June (1929) the ratios of industry and the factory production have been at the zenith and their collapse were set on . In October 1929, the ratio of the central bank production of USA was 117 in comparison with 126 that it was four months before. The production of steel was fallen from June and after in October since all transport with cargo train was reduced. The biggest fall at 1929 was the real estate, which was fallen for many years before. Finally, the stock market was fallen as well.

In the new global economy, the financial crisis of 2007 has become a central issue and was an expected event to happen. The belief that the economy of U.S. would never again had experienced a systemic financial crisis, after 1929 was false even more that it would turn into a global crisis. The crisis, which began in August of 2007, developed into the worst crisis in the U.S. since the Great Depression. It has been extraordinary in its depth and scope. Though overlooked by those not on trading floors, the crisis was taking place by a bank alarm; A run on short-term money market instruments, in particular sale and repurchase agreements and asset backed commercial paper. These markets had turned into too large and as a result the rejection of investors to restore the short term debt expected that large financial firms had to try to raise the cash through selling assets. The asset prices were plummeted. The whole U.S. financial system was at risk of downwards. Federal Reserve Chairman Ben Bernanke reported that of the 13 most important financial institutions in the United States, 12 were at risk of a breakdown in a period of a week or more. The follow-on loss of confidence, concerns about liquidity and the solvency of counterparties, led to cash hoarding and cutbacks in bank lending. Credit markets froze, real investment harshly declined, and millions ended up without a job.

The bank panic began in August 2007, after months of problems in the market. In the first half of 2007 a number of subprime originators had failed and prices of subprime-related securities had been declining. Then, in the mid September, Lehman Brothers (158-years-old investment bank) filed for economic failure, Merrill Lynch, rather than face economic failure, was bought by Bank American, AIG, met among Federal regulators to raise greatly

required cash, and Washington Mutual, the largest savings institution in the U.S., was looking for a buyer to keep it from failing. As news spread that Lehman Brothers would not continue to exist, FIs moved to disentangle trades made with Lehman. The Dow Johns fell more than 500 points, the largest fall in over seven years.

The economic crisis of the U.S. and the Euro area can be analyzed by splitting the sample into two periods, the earlier one corresponding to the 2008 Global Recession and the latter to the European sovereign debt crisis. Approximately, the first period starts in 2007, when problems in the U.S. market primary emerged which led to wide-spread banking stresses that culminated in the fall down of Lehman Brothers in September 2008 as we mentioned above. The next period started in 2009 when doubts about Greece's external dept emerged that would ultimately snow balled into the ongoing European absolute debt crisis.

Over the receded years the problem of banking and financial system became the most important. Two European countries, Cyprus and Greece, are the centre of attention for the Bank of Cyprus Public Company because of the activities of the bank to those countries. It is important that through the global financial crisis, Greece has set up by its own the attention worldwide due to its own natural weaknesses, being a pathetic link in a deeply weighted downfall. In addition, the great uncertainty that has prevailed throughout this period due to the fiscal crisis, the consequent exclusion of banks from the markets and the continuous reduction of deposits have negatively affected the liquidity conditions in the Greek economy. The Cyprus economy is currently facing several problems, having been repeatedly downgraded and every attempt should be made in order to keep Cyprus away from entering the support mechanism. In Cyprus, the package of measures for fiscal consolidation and the containing of public sector payroll costs is a measure in the right direction, but additional measures are necessary to achieve radical structural changes and significant medium and long term improvement of our fiscal position for the good of the country. Furthermore, the scenario that can be created following the finding of hydrocarbons in the exclusive economic zone of Cyprus, will act as a catalyst for the gradual reversal of the depressing psychology which sadly continues to influence the Cypriot economy. The banking sector both in Cyprus and in Greece has definitely felt the effects resulting from the above. The balance sheets of the banks have been weighed down by the impact of the impairment of the Greek Government Bonds (GGBs). In Greece, most

of the banks have accessed the liquidity assistance programme. In Cyprus, the banking sectors have confirmed resistance against the effects of the crisis and, throughout these difficult conditions; they continue their contribution to the local economy in various ways. Likewise to 1974 when, after having suffered the trials of the Turkish invasion, the banking sector had significantly contributed to the country's development, as today the strong banking sector represents an essential condition for the exit of the Cyprus economy from the crisis and a major contributor towards its recovery. It is for this explanation that the recapitalisation of banks is the highest value.

Recently, researchers in media have shown an increasing interest in Cyprus economy sectors. Banks are affected indirectly by the slowing down of the economy. The direct impact of the crisis for the Cyprus banks was the huge exposures to the market. The bank as the individual lender enjoys information economies of scope in lending decisions. That happened with accessing to private information on current and the possible borrowers with accounts at the bank. It is not possible to bundle up and trade this information, that's why banks use it inside to increase the size of their loan portfolio. Therefore, compared to depositors trying to lend funds directly, banks can pool a portfolio of assets with less risk of default, for a given expected return. What has been done in the Cyprus banks? They made the depositors to trust them and they invested their money into bonds. Now the banks they are out of money and they look forward to lending money. However, a major problem with this financial crisis in Cyprus began as it had been shown from the banks.

Questions have been raised about the safety or better the health of the banks. The bank can act as agents at lowest possible cost and so there will be a demand for its services. For instance, some banks have lost out on lending to highly rated corporations because these firms find they can raise funds more cheaply by issuing bonds. The second core activity of banks is to offer liquidity to their customers. Depositors, borrowers and lenders have dissimilar liquidity preference. Customers expect to be able to withdraw deposits from current accounts at any time. Characteristically, firms in the business sector wish to borrow funds and repay them in line with the expected returns of an investment project, which may not be realised for several years after the investment. By lending funds, savers are actually agreeing to forgo present consumption in favour of consumption at some date in the future. Perhaps more important, the liquidity preferences may change over time because of unexpected events. If consumers make term deposits with fixed term of maturity, they expect to be able to withdraw them on demand, in exchange for paying an interest penalty.

Likewise, borrowers anticipate being allowed to repay a loan early, or subject to a satisfactory credit screen, rolling over a loan. If banks are able to pool a large number of borrowers and savers, the liquidity demands of both parties will be met. Liquidity is therefore an important service that a bank offers its customers. Again, it differentiates banks from other financial firms offering near-bank and non-bank financial products, such as unit trusts, insurance and real estate services.

By pooling assets and liabilities, banks are said to be engaging in asset transformation. This activity is not unique to banks. Insurance firms also pool assets. Likewise, mutual funds or unit trust pool together a large number of assets, allowing investors to benefit from the effects of diversification they could not enjoy if they undertook to invest in the same portfolio of assets. There is however, one aspect of asset transformation that is unique to banks. They offer savings production with a short maturity, and enter into a loan agreement with borrowers, to be repaid at some future date. Loans are a type of finance not available on organised markets.

Banks are characterized as special; first and foremost, unlike other financial firms, they act as intermediaries between borrowers and lenders and, in so doing, offer a unique form of asset transformation. Secondly, liquidity is an important service offered to customers. A by-product of intermediation is participation in the payments system. Finally, banks play an important role in the macroeconomic, and have a special relationship with the central bank because the process of lending creates money.

One problem that may arise from financial crisis is the bank failure or else bankruptcy. Before starting to examine the main sources of bank failures it is worthy to sum up what is a bank and why it exists as it is mentioned above. Starting with the first question, by saying bank it means that bank is an institution which takes deposits and makes loans. Banks earn money by lending money to customers then customers pay the amount they borrowed with additional money which is called interest. A bank failure may arise when the bank is not able to meet its obligations. By saying banks obligations it means that the bank should pay money that is owned to depositors, investors and creditors. Therefore, a bank failure is the closing of a bank by a federal or state bank regulatory agency when it fails to meet its obligations. The causes of bank difficulties are numerous and difficult to disentangle so

appropriate examples of real bank failures can be explained in the following paragraphs in order to identify what went wrong.

As it had been mentioned before in this study we will focus on the ratio analysis and z-score of the Cyprus Bank Public Company compared with Marfin Popular Bank; by that analysis we can characterize the position of the bank because banks in the Cyprus Economy are one of the main factors that sustain it. In this paper the Cyprus Bank Public Company has been chosen because it is the chief bank after Central Bank and the bigger public bank in Cyprus. By that it is obviously that the BOCY has a major role as much as a special one. Also, the phrases of ‘ too-big-to-fail’ policies could attach the case of the Bank of Cyprus because as policies could extend the survival time, however, bank size is not the only element involved in a ‘too-big-to-fail’ policy. It should also be under consideration the measure of the bailout. This study attempts to show out the performance of BOCY over the years through ratio analysis compared with Marfin Laiki Popular Bank. After that we would be able to estimate the future position of bankruptcy or not of BOCY and CYPB by z-score and finally to find out the cause behind BOCY’s development or drawback of performance over years and if the bank is going to fail.

The purpose of this study is to discriminate the bank correctly by analyzing the financial ratios from its financial statements for the selected period.
The scope of the study was as Chim and Kletzer 2000 and Dekle and kletzer 2001 establish that as effect of problematic management, the probability of failure is an increasing function of bank asset risk and solvency (leverage). This study focuses, in specific terms and questions, on the classification patterns of financial ratios for BOCY over the period between 2004 and 2011. The major question of this study is to produce financial ratio analysis for BOCY and to examine the likelihood to fail. Also the study attempts to compare BOCY with Marfin Popular Bank only on important ratios. Then apply the Z-score for both banks for bankruptcy.

The study is prepared to give an actual idea about the act and the state of BOCY over the last eight years and helped a lot to gain realistic understanding about the financial sectors of the bank. This it has been shown by the financial analysis and the Z-score test of bankrupt.

This study has been divided into four parts. The next chapter deals with the literature reviews on bank failure and literature review on ratio analysis. This study will focus

mainly on the ratio analysis at the origin of crisis or non crisis, by identifying and comparing underlying patterns of individual bank conditions not only across countries but also across regions using bank level data. In this part we evaluate the relevance of using usual ratio analysis variables as indicators of near-term bank liability for liquidity ratios, leverage ratios, efficiency ratios, market value ratios, adequacy ratio, profitability ratios and other important ratios for banks which have been applied mainly by most of the banks Also, it will been estimate and present the Z-score of Altman (1968) for bankruptcy. It will then go on to the companies' profiles. Chapter 2 describes the methodology of financial ratios that have been used in this paper. Chapter 3 is the results of the analysis of financial ratios of BOCY, the comparison with CYPB and the estimation of z-score. Chapter 4 of this paper will be the recommendations and conclusion. Finally at chapter 5 are the references and bibliography. At the end are the appendices.

Chapter 2

Literature Review

Bank failure

To start up, let us consider the Great Depression which the international economic crisis in 1929 to 1934. During those periods more than ten thousand banks failed and especially in December 1929 the Bank of the United States was the first failure bank. The Bank of the United States was founded in New York in 1913 and it was specializing in lending money to recent immigrants and making risky loans to customers who could barely afford to pay back their loans. The US stock market crashed in October 1926 and as a result many investors lost their money. In December, The Bank of the United States had lost $40 million because its customers began to withdraw large amounts of their money. On the 10th of December more than 2.500 customers withdrew a combined amount of $2 million from one of the bank's branches in New York and the next day the New York States announced the closure of the Bank of the United States.

The second case of bank failure is a German bank called Bankhaus Herstatt and has failure due to settlement risk (foreign exchange). On the 26th of June, the firm's banking license was withdrawn and it was ordered into liquidation during the banking day but after the close of the German interbank payments system (3:30pm local time). Some of Herstatt Bank's counterparties had unchangeably paid Deutschemarks to the bank during the day but before the banking license was withdrawn. They had done so, believing they would receive US dollars later in the same day in New York. But in New York the time was only 10.30 am when Herstatt's banking business was terminated. Herstatt's New York correspondent bank suspender all outgoing US dollar payments from Herstatt's account, leaving its counterparties fully unprotected to value of the Deutschemarks they had paid the German bank earlier on in the day. Therefore, Bankhaus Herstatt failed due to the settlement risk, in which one party in a foreign exchange trade pays out the currency it sold but does not receive the currency it bought. So, it can be said that the foreign exchange has been the main source of Herstatt's failure. In the same period Franklin National Bank in New York failed due to large foreign exchange losses, due to quick expansion and due to unsound loans as a part expansion strategy.

The third example of a bank failure is Barings British Bank. The main reason for Baring's downfall was its exposure in Far East. Mr. Leeson was the head of department and he was the culprit. He was trading futures based on the movement in the Nikkei-225. In 1995, he bought $7 billion worth of stock index futures and sold $20 billion worth of bond and interest rate future contracts. Then he decided to buy and sell stock index futures on the Nikkei-225. He sold up to 40.000 option contracts but Mr. Leeson's strategy required that the Nikkei had to stay in the 18.500-19.500 range. Unfortunately, the Tokyo stock market plunged 1000 points to under 17.800. So Mr.Leeson failed and lost over $1.4 billion betting on Nikkei futures.

As fourth example is the Goldman Sachs which on December 4, 1928, the firm formed an investment trust, known as the Goldman Sachs Trading Corporation a closed-end fund. The fund failed as a result of the Stock Market Crash of 1929, hurting the firm's reputation for several years afterward. Shares in GSTC were priced at $100 at issue, and peaked at $326. In the aftermath of October 1929 stock market crash, the GSCT share price plummeted to $1.75.

Bank failures are not contagious as it can be seen from the examples above. Each bank is using its own strategies according to its regulator but if a crisis arises in the economy then some banks might fail.

Bankruptcy and Z-score

Many studies so far have made several general definitions of the economic failure. A team of researchers, from one side, put the definition of economic failure as a strictly legal status of bankruptcy. Several researchers, on the other hand, support a more general definition, including both legal and economic failure. A legal definition failure cannot be identified from a financial perspective as the economic problems for a long time now, before bankruptcy. Bankruptcy is the last stage of financial difficulties, when the survival of the business is no longer possible. Besides the economic failure occurs before a legal setback that an economic situation that worsens after taking all the necessary measures. . Two main categories that separate surveys for predicting bankruptcy is first for research using the univariate approach and second for those using the multivariate methods. In the first category falls the first attempt to predict the corporate failure using selected ratios presented by the Beaver (1966), who defined the failure as the situation in

which happening of any event such as bankruptcy, failure to pay loan bank opening, non-dividend preference shares. The model single-variable analysis included a dichotomous classification test, which showed that the index cash flows to liabilities, presented the greater predictive power failure at a rate (87%). That same year the Tamari (1966) used models, based on hazard ratios corporate failure, which were superior in ease of use. A similar definition, investigated the Deakin (1972), considering as unsuccessful firms those that went bankrupt or were inconsistent in servicing their obligations or liquidated (cleared). The second category consists the majority and significant studies using the methodology of Multivariate discrimination (Altman (1968), Meyer & Pifer (1970), Deakin (1972), Edmister (1972), Blum (1974), Sinkey (1975), Diamond (1976), Altman, Haldeman & Narayanan (1977)) and the Multivariate Probability Model (Ohlson (1980), Zavgren (1982) etc.)). The study of Glezakos & Karitinos (1994), based on an attempt modelling anticipate the bankruptcy of the Greek manufacturing companies, for a sample of 20 healthy and 20 bankrupt enterprises, which were available during the three financial years preceding the bankruptcy. Based on the sample data alternative embodiments Logit and Probit developed which were tested to the predictive ability in remaining sample. It is argued that the Methods Probit / Logit and the backward differentiation algorithm (Recursive Partitioning Algorithm) were not based on strict assumptions and thus beyond the Analysis of similar problems diversification. Both excel balances theory and show significant accuracy in predicting bankruptcy. The results showed that, with the data for the particular sample models LOGIT / PROBIT can be established which lead to quite accurate predictions up to two years before the bankruptcy, while the ability is still important for the third time. The models include, as independent variables, indicators that are identified primarily from cash flow, earnings and bank lending business. These latter parameters have been established, therefore, to be critical for separating the businesses healthy and unhealthy firms. Another survey conducted by Edward & Saunders (1997), records developments in credit risk over the last 20 years. The research was essentially divided into two parts. In the first place, based on the model credit risk of Altman (1968), for the measurement of credit risk personal and business loans, while in the second part, approached a new method of measuring the risk and returns of loans and bonds. Specifically, they showed that this new approach adds a lot of promise for the complex issue of the calculating the optimum level composition of the bond loan portfolio.

Preference for risk models against static models was advocated by Tyler (1999), because it is the most appropriate to predict the likelihood of bankruptcy. Nevertheless, model Z-score shows large differences in financial profitability. It is rare for companies with good profitability and strong on their balance sheets to go bankrupt due to the sudden change in the economic environment, for example, one sudden event corporate failure. Furthermore, the results show that in terms of predictive accuracy, there is little difference between the market-based and accounting models. Besides the evaluation of credit risk, despite extensive criticism of traditional accounting indicators approaches in practice does not yield correct results. In fact, accounting approach generates significant economic benefits in relation to a based approach to the market.

Work by Montgomery et al. (2005) empirically investigates the causes of Bank failures in Japan and Indonesia using the regression analysis of financial indicators and it investigated domestic utility forecasting models fail banks, with a multi resolution model that allows the correlation of the error terms. The Results showed that loans, as a percentage of total assets, deposits and ratio of non-performing loans are the most important predictors of bank failure both in Japan and Indonesia. The regulatory capital ratios, however, do not seem to be important indicators of failure.

The study of Amendola et al. (2006) has focused on the comparison of different techniques used to predict failure through a balanced sample companies within a geographical area (Campania region) located in southern Italy. Due to the limited financial data, many of the empirical studies have been conducted in a general framework without focusing on a specific geographic area or a small financial district. Disparate with this study is to compare various statistical techniques (univariate and multivariate) supported analysis of the financial data for the prediction and diagnosis risk of bankruptcy. The efficiency of these methods leads to a prediction high quality results with low error rate prediction. Furthermore, as expected, the capacity of the prediction decreases as the horizon. The accuracy of the prediction models can be enhanced to include unforeseen economic data as well as consider one important factor in the shift from a static to a dynamic technique. The Z-score of Altman, can be used for public enterprises emerging economies, because it gives attention to solvency ratios; in contrast to a rapid changing environment, profitability ratios should be examined more thoroughly as it has been shown from the Sandin & Porporato (2007), which examined a sample set of 22 companies bankrupt and healthy in Argentina-based multi resolution technique analysis, comparing

this technique with previous studies. Comparing models there is a shared view of solvency ratios total assets and profitability indicators in terms of sales. For applying z-score to dynamic emerging market for Islamic Banks in the United Arab Emirates, analyzed by the research Obaid & Zaabi (2011) examined the financial statements of Islamic banks in UAE by calculating the z-score for the last three years and comparing it with the z-score of the year, as a measure of total effort economic performance and the likelihood of these bankruptcy banks. The results showed that the rates used to calculate the Z-score model can provide valuable information and may be adapted as an independent predictor of credit risk analysis for measurement of economic powers and benefits of potential projects for Islamic banks in order to finance long-term projects partnership with the media.

Researchers are expressing their concerns regarding the effectiveness of discriminated analysis as Eisenbeis (1977) and Zopounidis (1995) who attribute the lack of quality variables and the inability to integrate new techniques of financial analysis of serious concern as to the effectiveness of method nowadays. The financial indicators used by model Altman's z-score, covering a wide range of information on business and especially the efficiency and structure of property and funds. Z-score is the modulation between bankrupt and non- bankrupt firms.

A study of bankruptcies in France, Germany and the UK (Sergei A. Davydenko , Julian R. Franks, "Do bankruptcy codes matter? A study of defaults in France, Germany and the UK)

Teachers Sergei R.Davydenko the University of Toronto and the Julian R.Franks London Business School have done extensive research on how credit institutions operating in three European countries, France, UK and Germany should consider when a company is on the verge of bankruptcy. The article is very detailed, instructive, and extensively tries to convey the most important results. The authors used a large sample (2280) of small and medium enterprises who failed to cope with their debt obligations in all three countries. They found large differences in the rights of creditors and how they settle their debt repayments and reorganization of business practices. French banks are generally less debtor friendly, inviting them more collateral than in other countries with very strong terms contracts, despite the fact that the law is more flexible for businesses in restructuring than in Britain and Germany. Definitely, in a scale that has made the investigators on creditors

rights score as the legal framework, France scored 0, 3 Germany and UK 4. France provided more opportunities for reorganization procedures even in risk mortgage lenders have advisory and reorganizing the way the risk decides what will happen even if the risk administration placed in the company is not obliged to follow the instructions of creditors. This does not happen in Germany. There is no direct cooperation temporary command and creditors in reorganization. In the UK the legal system is generally friendlier to bankers. There can the mortgagee to sell the company to the satisfaction and non-mortgage lenders are not paid at all. The authors conclude by summarizing that, despite differences, interest default is similar in all three countries, the laws are generally stricter and minority creditors have decided to follow by major creditors and the risk reorganization.

Ratio Analysis

According to Abdus Samad and M.Kabir Hassan (1999) in a case study of Islamic bank it has been shown that the averages of ROA and ROE during the period of 1989-1997 were 0.43 and 8.07 respectively. A comparison with BIMB and a group of conventional bank on ROA and ROE does not prove statistically any differentiation in performance. Measures as cash-deposit ratio, loan-deposit ratio and current ratio did not show any deterioration or improvement. The Islamic bank appears to be statistically more easily compared to a group of 8 conventional banks at least in cash-deposit measure since cash-deposit ratio of BIMB is 0.021 to 0.012 of the conventional bank. The difference of Islamic bank and a group of eight conventional banks represented that there is similarity in economic participation between them.

To determine banks' creditworthiness and risk exposures is a difficult issue and it is not simple to interpret banks' accounting data. Kaminsky and Reinhart (1999, p. 476) argued that "Indicators of business failures and nonperforming loans are also usually available only at low frequencies, if at all; the latter are also made less informative by banks desiring to hide their problems for as long as possible." This means that it is needed that they be able to use as fully and complexly as feasible all available financial information from the official financial statements of banks for production financial analysis of banks' performance.

The analysis by Doron Nissim and Stephen H.Penman (2001) in their study of ‘’Financial statement analysis of leverage and how it informs about profitability and price-book ratios’’ fund that the financial statement analysis distinguishes influence in operations from leverage in financing. Furthermore, it distinguishes differences in simultaneous and future profitability between firms. Also, leverage from operating liabilities normally levers profitability more than financing leverage and has a superior frequency of favourable effects. For that reason average, by controlling for total leverage from both sources, firms with higher leverage from operations, have higher price-to-book ratios. Likewise, it had been shown that operating liability leverage, explains differences in the change in future profitability from current profitability.

Peter R.W.Demerjan (2007) studied the ‘’Financial ratios and credit risk: the selection of financial ratios covenants in debt contracts’’, examined the reason of driving the range of financial ratios covenant in debt contracts. It has been exposed that financial ratio covenant inclusion is related to borrower or contract features that make the ratio more or less informative of borrower credit risk. For borrowers with positive earnings, high profitability and low volatility, earnings tend to have coverage and debt to cash flow covenants in their debt contracts. For the others borrowers have net worth covenants. Finally, borrowers with high working capital and convent assets are likely to have current ratio covenants.

Recently, several studies have examined the ratio analysis of banks. A team of Mediterranean journal of social sciences (2011) in a study of profitability in a bank in Pakistan uses the method of pooled ordinary least square (POLS). They select data for the top 10 banks in Pakistan with high profitability, in the examined period of 2004-2008. They fund first that a higher total assets may not necessarily lead to higher profits. Also, the negative coefficient of size significant at the 1 percent level indicates that, this relation might be negative due to diseconomies of scale. Secondly, higher loans contribute towards profitability but their impact is not significant that reveals that more dependence on one major asset, may lead to profitability but with less significant impact on overall profitability. The third result was when one of the banks has a loss then the relationship between loans and profitability was negative. As fourth, they mention that positive and significant relationship had the profitability indicator ROA with total deposit to total assets and total equity to total assets. Finall, they conclude that the main domestic determinants of

profitability of banks in Pakistan are total assets, equity / total assets, deposits / total assets and loans / total assets.

DR.M.DHANABHAKYAM;M.KAVITHA(2012) points out that the old as well as the new private sector banks have a central role in marketing of recent style of deposits. Furthermore, it was founded that the Indian banking system faces several complicated challenges.

Levent Citak and Ersan Ersoy (2012) further argued that the size of the firm and the collateral value of assets are positive related to leverage, in diversity with dividend payout ratio and profitability where they are negative related to level of short-debt. Finally, they argued that the Turkey's crisis in 2001 had increased short-term financing for that year.

Gang Fu, Weilan Fu and Dan Liu (2012) by their investigation demonstrated that the financial risk was significant based on negative correlation with the current ratio, net profit margin, net asset ratio, fixed assets ratio and no significant correlation with debt structure, inventory turnover and accounts receivable turnover.

As Tsolas, I (2012) researched the modelling profitability he has concluded that the profitability was positive correlative with performance in stock market. Additionally, the incompetent firms prove declining returns to scale in profitability size.

Fang, Hasan and Mester (2012) in their study define that the characteristics of Central bank governance are related with banking performance. By the time of crisis, it was founded that a higher percentage of external directors were associated with higher banking profits and lower loan losses. Nevertheless, was associated with lower credit growth, while the higher governor turnover was connected to higher profitability and credit growth.

Jha and Hui (2012) stated that the return on assets was significantly influenced by interest expenses to total loan and net interest margin. In another major study Hassnain and Jeved (2012) argued that the growth rates of deposits and assets of Islamic bank were statistically significant and insignificant with investments and owners equity. Also, a study from Asghar, Mushtaq and Mirza (2012) provided that the size, net investments in leasing finance and liquidity have a positive relationship with the profitability of leasing companies when negative relationship leverage and age have with the profitability of leasing companies. Furthermore, Bouhene, Dasah and Agyei (2012) stated that the credit risk has a positive and significant relationship with bank profitability. From that it has been

shown that Ghana's bank enjoy high profitability despite high credit risk. Also, they found that bank size, bank growth and bank debt capital influence bank profitability positively and significantly. K. Senthilkumar (2012) asserted that the Indian bank's profitability expected to remain under pressure due to the increased cost of borrowing.

A range of measures of rates of return are used mainly for the purpose of ratio analysis. We completely agree with the view that "Relaying too heavily on just a few indicators of bank profitability can be misleading. While ROA, ROE, and interest margin (and noninterest expenses) to gross income remain the key measures, they should ideally be supplemented by the analysis of other operating ratios" (Sundararajan, 2002, p.20).

OVER VIEW OF RATIO ANALYSIS

Ratio Analysis is an implement which is used as a method of analyzing the performance of any organization or company. It is characterized as one of the most important techniques of financial analysis in which quantities are converted into ratios for significant comparisons with past ratios and ratios of other firms in the same or different industries. Ratio analysis determines trends and exposes strengths or weaknesses of a firm. According to Golin (2001), comparing the bank or with data from other banks in the industry or with historical data from the Bank itself, it is possible to discern the relative capabilities or weaknesses and the upward or downward course. The first difficulty arises from how to make the comparison. If we take the elements of the CSE and the Balance Sheet as absolute and try to compare one bank to another, several problems arise. They can reveal that the net profit of a bank is more of the other, however, to draw firm conclusions about whether a bank performs better or not, you should check how many assets produced this result to one another and how to the bank. It is also possible that the bank with more profits has been exposed to higher credit risk, which will ultimately lead to other problems, such as a high ratio of non-performing loans and higher provisioning requirement and, thus, fewer future profits. Similarly, in tracking the Bank itself over time, may well be based on absolute figures, such as the amount of assets, to show that it increases over time, and, therefore, increases the size of the table, but it is important to check if this increases the assets covered by an appropriate increase in equity, for example, if the bank considers its capital adequacy, as defined by the supervisory authorities to protect the financial system.

As inferred from the above, the problems of assessing banks are multidimensional and the evaluation cannot be based on absolute figures. So they have developed indicators, that facts obtained by dividing two other sizes, which are divided into different categories of interest evaluation of the banking system. Processing with global practice, there are same main areas of assessment, which have developed banking ratios.

TYPES OF FINANCIAL RATIOS

Ratio analysis is done to compare or estimate the performance over the years. This analysis mainly deals with some fields: those are liquidity ratio, leverage ratio, profitability ratio, and efficiency ratio and so on. Generally, Ratio Analysis is an implement which enables the person who lends or the banker to arrive at the following factors: liquidity position, profitability, solvency (leverage), financial stability, quality of the management and safety and security of the loans and advances to be or already been provided. According to Golin (2001), liquidity is one of the most important factors associated with the operation of commercial banks, as its absence leads to an attached effect leading to bankruptcy. One definition of liquidity is the ability to respond to the bank or obligations which require to be repaid, or applications for credit, whether the current needs of the Bank itself, such as payment of salaries and bills. For example, in the first case, the bank is trying to respond to requests for withdrawal of money from their savings accounts to its customers, because if you begin to have difficulties, then it will cause concern among depositors and all, who being alarmed run to pick up their money, so the bank will be led to bankruptcy. In the second case, the bank is trying to make essentially the basic function of which is to grant credit. If you cannot meet the needs of its customers for money, then not only you lack revenue, but concern the whole market for the state of liquidity, to behold with previously disastrous consequences. These ratios are used to determine the short-term solvency of an organization. These ratios prove the ability of the organization or company to convert quickly its assets into cash to pay its different types of short-term debts. The higher the ratios are then the company is more liquid and the lower the ratios will be so the less liquid the company may experience to pay its short-term debt.

Regarding liquidity risk, the usual indicator of bank liquidity is the ratio of liquid assets, such as cash and reserves, government bonds, and other marketable securities, over total assets as a measure of the maturity structure of the asset portfolio, which can reflect

excessive maturity mismatches. On the other hand, given that liquid assets allow banks to meet unpredicted deposit withdrawals, the liquidity of assets relative to liabilities is also a factor that affects the risk of bank failure (Calomiris and Mason 2000). For this reason, both ratios, which are negatively related to the risk of bank failure, are included in the empirical analysis.

By using current ratio the firm's short term solvency can be measured. If the ratio is bigger than 1 it means the firm has more current assets than the current claims against them. As a typical rule a current ratio of 2 is considered most satisfactory. The base of this rule is on the logic that in a worse situation, even if the value of the current assets becomes half, the firm will be able to meet its current obligations. It represents the ''Margin of Safety''. For instance: reduction of protection for the creditors. Higher the ratio is it drives to greater safety's margin. In general, businesses prefer to have at least one euro of current assets for every euro of current liabilities. However, the normal current ratio fluctuates from industry to industry. A current ratio significantly higher than the industry average could indicate the existence of redundant assets. Conversely, a current ratio significantly lowers so that the industry average could indicate a lack of liquidity as Golin (2001) mentions. This ratio gives the relationship between the current assets and current liabilities of a concern. Current Assets are those cash and those assets which can be in 1 year converted into cash. Current assets can be included in the marketable securities, debtors, inventories and prepaid expenses. As Current Liabilities we can include at this category that we have creditors, bills payable, accrued expenses, short term bank loans, income tax liabilities and long term liabilities maturing in the current year. The ratio is also considered to observe the liquidity position of an organization. This ratio is obtained by dividing the total quick assets of a company by its total current liabilities. This is a vital ratio because occasionally a company might have heavy inventory as part of its current assets which may be obsolete or slow affecting. For that explanation eliminating those inventories from current assets is doing to measure this ratio. The ratio is regarded as an acid test ratio. It expresses the true working capital relationship which includes accounts receivables, prepaid and notes receivables available to meet with the company's current obligations.

Profitability ratios measure the overall earnings performance of a company and its efficiency in utilizing assets, liabilities and equity. According to Golin (2001), profits are

the lifeblood of any commercial company. Although banks are not strictly commercial institutions, but the majority of them fall into this category. Introducing sufficient profits, the bank, like any other company, except extreme conditions, is likely to remain solvent, to survive, and in a suitable environment to grow and flourish. High profits allow the bank to generate capital internally. Through "effectively carried forward", thus absorb economic shocks, to attract funds and manages to cope with various problems. Adequate earnings give the bank the opportunity to invest and succeed in a competitive environment. Also, the Bank's ability to generate earnings and therefore herself has a material effect on long-term debt rating. At the same time, the bank is trying to manage credit risk effectively channelling the funds carefully in suitable borrowers. Profits and profitability can be looked at from two sides. From the perspective of equity analysts (equity analysts) and from that analysts credit (credit analysts). For analyzers capital gains is absolutely necessary to increase dividends to shareholders and increase the value of their investment. Interested in the way of profits, they know if and when to sell shares worth. For credit analysts on the other, the focus is the extent to which the profits due to increased risks incurred by the bank in its lending or whether they will over time, so that the bank can meet its obligations. The contrast between the two approaches and the profits divided in profits compared with the amount of provisions for doubtful debts. When the bank has a problem with the quality of its assets, is in direct response to an increase in provisions for doubtful debts. Higher estimates, however, imply lower profits attributable to shareholders, leaving equity analysts to react negatively to increases in provisions. Unlike credit analysts see these increases, regardless of the temporary reduction in profits. By the same token, when in large increases in profit, analysts are concerned that credit is the result of inadequate or excessive forecast loan growth even if high profits are counterbalanced by other factors deterioration of creditworthiness such as capital or liquidity. The profit margin of a company determines its ability to survive in competition and adverse conditions like rising costs, falling prices or declining sales in the future. The ratio measures the percentage of profits earned per euro of sales or net interest income. Therefore this ratio is a measure of efficiency of a company.

Return on equity (ROE) is a measure of profitability ratio that calculates how many euro of profit a company generates with each euro of shareholders' equity. The return on equity of a company measures the ability of the management of the company to generate adequate returns for the capital invested by the owners of a company. The ratio correlates net profit

to equity, invested in the bank. This indicator mainly interested shareholders, since they want to see the return on capital invested. The ROE could be broken down into three sub-product indicators, each describing the specific aspects of the operation of bank. (See appendix). The return on assets of a company determines its ability to utilize the assets employed in that company efficiently and effectively to earn a good return. Return on assets measures the amount of profit that the company generates as a percentage of the value of its total assets. A company's return on assets (ROA) is calculated as the ratio of its net income in a given period to the total value of its assets.

Generally, this ratio relates net income by total assets. This is an indication of how effectively they have used the assets to provide income. According to a classification that says Golin (2011), ROA banks with less than 0.5% are considered weak, with ROA 0,5% - 1,0% moderate, 1.0% -2.0% and well above the 2.0 % very good. However, if the ROA exceeding 2.5%, this may mean either that there is a function "cartel", whether their assets are at high risk or credit that is due to extraordinary income, for example, sale of a subsidiary. The analyzes of the banks, has found that most of the assets mentioned in efficiency, using net profit after tax, but some use their profits before taxes, on the premise that the performance of the assets should not be affected by the amount of taxes. In previous ratios ROE, who are interested to see the return on investment of shareholders, the use of earnings before taxes does not make sense, as the distribution of profits to them becomes minus taxes.

Net noninterest margin is defined as net noninterest income over the total assets. Also net bank operating margin is defined as the total operating revenues minus the total operating expenses over the total assets. This ratio explains how effectively management is running its operations by using assets to generate income and expenses. Solvency is related to the ability to withstand shocks for example how well a financial institution can attract losses. An operative concept of solvency (positive net worth) is difficult to measure in practice, however, because the presence of non-marketable assets or the nonexistence of liquid markets for some categories of bank assets make it difficult to obtain a steady measure of a bank’s asset value. In this situation, solvency has been replacement by the level of leverage, where the ratio of total capital (total equity plus loan- loss reserves) over total assets is the traditional measure of solvency. Leverage ratios are used to measure the extent of the company's financing with debt relative to equity and its ability to cover interest and other

fixed charges. These ratios address the company's long-term ability to meet its financial leverage. The higher the ratios the more indebtedness the company owes. This higher results signal the possibility the company will be unable to earn enough to satisfy its debt obligations. In the risk analysis the long-term debt to equity ratio is a way to determine a company's leverage. The ratio is calculated by taking the company's long-term debt and dividing it by the total value of its preferred and common stock. The company who has higher ratio is thought to be more risky because it has more liabilities and less equity.
The total debt to equity ratio is obtained by dividing the total liability or debt of a company by its total equity. The ratio measures how the company is leveraging its debt against the capital employed by its owners. If the liabilities exceed the net worth then in that case the creditors have more stake than the shareholders.
The debt to total assets ratio is an indicator of financial leverage by Golin (2001). It tells the percentage of total assets that were financed by its total debt. The debt to total assets ratio is calculated by dividing a company's total liabilities by its total assets. The lower the result of this ratio the better off the company is.
Total equity to total asset ratio used to help to determine how much shareholders would receive in the event of companywide liquidation. The ratio is expressed as a percentage which is calculated by dividing total equity by total assets of the company. It represents the amount of assets on which shareholders have a residual claim.

Efficiency ratios demonstrate how efficiently the company uses its assets and how efficiently the company manages its operations. This ratio could otherwise be expressed to the profit before tax, provisions and extraordinary income / expenses. According to Halkos and Salamoulis (2004), the efficiency ratio expresses the percentage of profits consumed for operating expenses and the smaller they are, the more efficient is the bank, because the smaller part of revenue needed to cover its costs.

Asset turnover measures a firm's efficiency at using its assets in generating revenue and the higher the number of ratio the company is in better position. It also indicates pricing strategy as the company with low profit margins tends to have high asset turnover and those with high profit margins have low asset turnover.
The fixed asset turnover ratio is the ratio of revenue to net fixed assets. A high ratio indicates that a company is doing an effective job of generating sales with a relatively small amount of fixed assets. On the other hand if the ratio is declining over time the company has either overinvested in fixed assets or it needs to issue new products to revive

its sales. The current asset turnover ratio is indicates how efficiently the firm is using its current assets.

Market value ratios are used for value comparison. These ratios relate the market price of the firm's common stock and the financial statement figures.
The price earnings ratio is the price currently paid on the open market for a share of a company's stock divided by its earnings per share. The price earnings ratio represents those earnings in which the investment community is willing to pay to its own company's stock. A very high multiple indicates that investors believe the company's earnings will improve dramatically while a low multiple indicates the reverse. This ratio indicates the number of times the earning per share is covered by its market price.

The adequacy ratios are used to assess the adequacy of the liquidity of the banks and ensure the banks have adequate cash flow to meet all obligations in a timely and cost-effective manner. The importance of capital and the need for capital adequacy has been mentioned earlier in the analysis of profitability and asset quality. The importance of capital proficiency is even greater for banks, which are characterized by high levels of leverage. The banks in their efforts to achieve adequate returns on equity to satisfy their shareholders, since the main business is intermediation between depositors and borrowers and that this competition does not allow large interest margins, trying to increase the profitable items of their assets, while if there was no control of capital adequacy, would prefer to keep low equity. On the other hand, according to Golin (2001), capital is necessary for the following reasons:

- For the purchase of fixed assets such as buildings and equipment, for the initial costs of the bank and to finance expansion.

- This is the second line of defence, after provisions for bad debts for write-offs.

- If "failure" of the bank, meet its obligations to depositors.

- To inspire confidence to depositors, creditors, regulators and analysts.

For capital there are various definitions. The main difference is between the traditional concept of capital as equity and that which has been identified by the Basel Committee, which most will mention below. Thus, the various capital ratios can be divided in

traditional and contemporary indicators as defined by the Basel Committee.
As we mention above adequacy ratio is a ratio of a bank's capital to its risk. It is expressed as a percentage of a bank's risk weighted credit exposures. The capital adequacy ratio is the product of consultation of the Basel Committee. As shown above, this indicator has been modified from its first presentation in 1988 (Basel I), the first in 1996 (Basel I amendment) with the addition of market risk and the last in 2004 (Basel II), the application of begin the end of 2006. The Basel Committee was established in 1974 by the Governors of the Central Banks of the Member States of the 'Group of 10 »(G-10) and meets regularly four times a year. Members are representatives of central banks and other supervisory authorities of the following countries: USA, Germany, Japan, France, Great Britain, Canada, Italy, Spain, Netherlands, Switzerland, Sweden, Belgium and Luxembourg.
The Basel Committee is not a supranational supervisory authority, but a forum without legal authority, which operates under the auspices of the BIS (Bank of International Settlements). Her findings have no legal force but are designed to shape general supervisory guidelines and best practices. In 1988, the Basel Committee proposed a capital measurement system, which became widely known as the Basel Accord (Basel Capital Accord) or briefly "Basel I". This system introduced the application of a framework for measuring credit risk off balance sheet assets (risk weighted assets), while laying a minimum required regulatory capital equal to 8% of risk weighted assets. The original Basel Accord was complemented by the integration of market risk (January 1996) and further enriched by introducing alternative methods of measuring these risks, and in 2004 presented the revised Basel Accord (Basel II), which, among other things, included in the capital adequacy ratio of operational risk. The introduction of Basel I directly affected the behaviour of financial institutions. The application of risk weights to different asset categories led financial institutions to seek both assets higher or lower risk, and other, methods of avoiding capital requirements (regulatory capital arbitrage). The minimum capital adequacy ratio calculated as a ratio: a) Numerator is the chapter is divided into two categories, the core capital (Tier I) and other equity (Tier II), while the first required to be at least 50% of the total (the Tier II may not exceed 100 % of Tier I). b) The denominator is the sum of assets weighted for credit risk (risk adjusted assets), plus the balance on the credit risk of off-balance sheet (off-balance sheet items), together with the measure of risk market and operational risk (Basel II). Core capital is the minimum amount of capital that a bank has to have to ensure protection of consumers. It is expressed as a percentage of a bank's risk weighted credit exposures. Supplementary capital is secondary bank capital that

includes items such as undisclosed reserves, unclassified loans, assets revaluation reserve and so on. For an adequately capitalized bank has total capital (Tier I + Tier II) in excess of 8% of total assets adjusted by risk. For the balance of the assets originally defined 4 categories, 0%, 20%, 50% and 100%, and now reaches 150% (Basel II). By way of illustration, that the treasury rate having a 0% business loans have 100% mortgages are 50% and accounts receivable have 20%.

Loan to deposit ratio is a form of percentage divided total loans by total deposits. According to Golin (2001), this ratio is the most important indicator of its liquidity, as it shows the extent to which the funds of depositors are committed to making loans. Total loans (net of allowances) refer to loans granted by the bank and are generally considered illiquid assets, while total deposits refer to deposits and credit institutions, which are short-term obligations. The higher this ratio, the more difficult bank could meet its depositors, when you call taking their money.

Rate of return, is the ratio of money gained or lost on a loan relative to the amount of money lender.

ADVANDAGE AND DISADVANTAGE OF RATIO ANALYSIS

ADVANDAGES OF RATIO ANALYSIS

This ratio analysis gives quick financial information to a financial institution. By giving a quick look anyone will be able to take any decision regarding the financial statement. Therefore managers, shareholders, creditors etc. all take interest in ratio analysis. By Golin (2001) and Heffernan (2005).

- Ratio analysis simplifies the financial statements.
- It helps any institution to compare with different companies of different size with each other into an industry as well as outside of the industry.
- It helps in trend analysis which involves comparing a single company over a period of time and also forecast the future performance.

- The liquidity ratio can be helpful in measuring the liquidity position of any institution and also shows whether an institution will able to meet its obligations or not.
- The profitability ratios help to find out the operation efficiency of any institution and also whether that institution using the resources wisely or not.
- As ratios are easy to understand it becomes easy for a company to communicate the ratios to those who are interested in the financial performance of the company.
- It highlights important information in simple form quickly. Anyone can easily judge an institution by just looking at few numbers instead of reading the whole financial statements.

DISADVANDAGES OF RATIO ANALYSIS

Despite usefulness financial ratio analysis has some disadvantages too. Some of the drawbacks of ratio analysis are:

- Ratio analysis explains relationships between past information while users are more concerned about current and future information.
- Ratio analysis doesn't consider inflation.
- Ratios may give false results because many institutions show more profit and accounting data to attract the investors or creditors.
- Ratio analysis always deals with the numbers. It doesn't talk about product quality, customer service, employee morale and so on which are important for better financial performance.
- Ratios are mostly used to compare performance over a long period of time or against the rivalry performance. To do those ratios enough information may not available always.
- Different institutions operate in different industries each having different environmental conditions such as regulation, market structure, etc. Such factors are

so significant that a comparison of two institutions from different industries might be misleading.

ALTMAN'S Z-SCORE MODEL FOR BANKRUPTCY

The Z-score model is a quantitative model developed in 1968 by Edward Altman to predict bankruptcy or else financial distress of a business, using a blend of the traditional financial ratios and a statistical method known as multiple discriminate analyses. Specifically, is a product of linear analysis, which are aggregated in some indicators, so that ex- result to classify the company in failed or not. The Z-score is known to be about 90% accurate in forecasting business failure one year into the future and about 80% accurate in forecasting it two years into the future.

If the value of Z is less than the threshold (1.8 to 3), then the business is in a danger zone. If the value of Z is greater than the threshold, it is in a safe zone. Finally, the company will be located in the gray zone if it is within the upper and lower limit. The model is Altman's z- score is an important tool for businesses to assess the ability of their customers. It 1968, Altman created the method dividing multivariate analysis whereas through certain indicators index Z, who classifying the failed in every business and not according to the result. Then But due to certain changes in the financial reporting system decreased the ability of the model, resulting in 1977, Altman, Halderman, Narayaman update the existing model, so as to increase the naming accuracy z-score. To sum up we use Altman's Z-Score as our measurement tool to assess a company's financial condition. It incorporates fundamental financial analysis, offers a consistent measurement methodology across all business segments, and an enhanced level of transparency by use of fully disclosed and open calculation model.

According to Golin (2001) the Z-Score has as advantages that it provides a quantitative measurement into a company's financial health. The Z-Score highlights factors contributing to a company's financial health and uncovers emerging trends that indicate improvements or deterioration in financial condition. Moreover the Z-Score is a critical tool business managers use to assess financial health. It helps managers align business strategies with capital allocation decisions and provide transparency of financial condition

to lenders and equity capital providers. Business managers apply the Z-Score to raise capital and secure credit. The Z-Score can be characterized as a useful tool to express credit worthiness to bankers and security of business model to investors.
Also the Z-Score is based on actual financial information derived from the operating performance of the business enterprise. It avoids biases of subjective assessments, conflicts of interest, brand and large company bias. Finally the Z-Score employs no theoretical assumptions or market inputs external to the company's financial statements. This provides users of the Z-Score with a consistent view and understanding of a company's true financial health.

The Z-Score is an open system. This allows users of the Z-Score to understand the variables employed in the algorithm. All the mysteries and added cost of "proprietary black box" systems are avoided empowering users to enjoy the benefits of a proven credit decision tool based solely on solid financial analysis.
By sum up the Z-Score is as well an effective tool to analyze the financial health and credit worthiness of private companies. It has gained large acceptance from auditors, management accountants, courts, and database systems used for loan evaluation. The formula's approach has been used in a variety of contexts and countries. Forty years of public study speaks highly of its validity.

CHAPTER 3

METHODOLOGY

In this chapter it has been described the methodology and the elements that it been used in order to prepare this study.

As already known, the published financial statements are the most important "source" of information for outside analysts. But not provide ready information, but simply the "raw material", as absolute financial assets, which none or very little of importance alone. The analysis of financial statements has a range of processes from which the analyst can choose whichever best suits the intended purpose. In this chapter, we present the following basic methods of analysis:

- Statements of common sizes.
- Use financial ratios
- Using Z-scores for bankruptcy

Each analysis method from the above has advantages and disadvantages, so the analysts often choose a main analysis tool, while, using adjutants and another. Generally, analysts prefer technical analysis with financial ratios, because it recognizes that this technique offers more than other methods of interpretation financial data.

Analysis with Ratios

The previously developed analysis methods are supplemented by using ratios, which provide businesses with useful information in order to bring stakeholders in right decisions. The analysis ratios considered one of the most famous in analysis, evaluation and interpretation of financial statements. These ratios reflect logical relationships of economic aggregates, indicative of value of two core business functions: management and exploitation. Comparing the sizes expressed in the Latin word that Ratio means correlated-rationale. In financial analysis, ratios considered the simple mathematical expression of the

relationship between two accounting data (data or sets of data), obtained from the same (balance sheet) or separate financial statements (balance sheet and income statement). The ratio, therefore, is only a fraction of which can be expressed, either as a quotient, either as cause or end as a percentage.

Ratio Bankruptcy of Altman's Z-score generally the model Altman's Z-score is a handy model with we can estimate the financial risk to which businesses are as we mention before. Specifically, is a product of linear analysis, which are aggregated in some indicators, so that from result to classify the company in failed or not.

Depending on the type of business have 3 different versions of model. We used the following for industrial firms which are publicly traded apply the following scenario:

$Z = 1.2\ X1 + 1.4\ X2 + 3.3\ X3 + 0.6\ X4 + 0.999*X5$

*(0.999 = 1)

With the critical values of Z defined from 1.8 to 3

TABLE 1: Z-SCORE RATIO

	WRATIOEIRARRPRGHTAGE		
A	EBIT/Total Assets	x. 3.3	-4 to +8.0
B	Net Sales /Total Assets	x 0.999	-4 to +8.0
C	Market Value of Equity / Total Liabilities	x 0.6	-4 to +8.0
D	Working Capital/Total Assets	x 1.2	-4 to +8.0
E	Retained Earnings /Total Assets	x1.4	-4 to +8.0

If the value of Z is less than the threshold, then the business is in a danger zone. If the value of Z is greater than the threshold, it is in a safe zone. Finally, the company will be located in the gray zone if it is within the upper and lower limit. The model is Altman's Z-score is an important tool for businesses to assess the ability of their customers.

This study will employ income statement and balance sheet data for Bank of Cyprus Public Company and Marfin Laiki Popular Bank from the BankScope data base offered by IBCA. For this study all data and information are collected from secondary sources. Secondary sources of data are collected through websites, articles, Bank of Cyprus Annual Report for 2011, 2010, 2009, 2008,2007,2006,2005 and 2004 and Marfin Popular Bank Annual

Report for 2011. The selected period it been chosen because it refers to years before the crisis and during the crisis. Also, it had been used data from many research reports on ratio analysis. The holes calculations have made in Microsoft excel. Finally, this paper will come up with the recommendations and conclusions.

Companies Profiles

Banks represent one of the most important and largest players in the financial markets. The banks have a fundamental role in the economy of a country. The downturn that began in December 2007 impacted the revenues and the profitability of businesses worldwide. The Cyprus banking system is to some extent insulated from the factors leading to the banks of Greece. Banks are affected indirectly by the slowing down of the economy. The direct impact of the crisis for the Cyprus banks it was the huge exposures to the subprime market. Moreover, there are not good signs for the overall economy of Cyprus but in addition with compare to the whole world there are very satisfactory outcomes for the Cyprus economy. Therefore, with no any question we can pronounce that the banking region of the Cyprus is a progressive economic sector for our country.

According to the data of Cyprus bank, (Source Central Bank of Cyprus), there are 42 different banks in Cyprus. Among them, total number of State-owned bank is 04, other banks 04, subsidiaries of foreign banks 08, branches of European Union Banks 09, branches of banks from non-European Union countries 17. As effect banking is attractive and offers really successful job career.

Bank of Cyprus

Bank of Cyprus started its operation in 1899 and has since been able to establish one of the largest networks of 573 branches among the world and the first generation banks in the private sector. Has leader role in Cypriot banking and financial services. The Bank of Cyprus expert of retail and commercial banking, also the bank activated in finance, factoring, investment banking, brokerage, fund management, private banking, life and general insurance. With its firm commitment to the economic development of the country, the bank has already made a distinct mark in the realm of private sector banking through personalized service, innovative practices, dynamic approach and efficient Management.

The Bank, aiming to play a leading role in the economic activities of the country, is firmly engaged in the development of trade, commerce and industry thorough a creative credit policy.

The bank currently operate through a total of 573 branches as I had mention above, of which 197 operate in Russian, 187 in Greece, 135 in Cyprus, 42 in Ukraine, 10 in Rumania, 4 in the United Kingdom and 1 in the Channel Island. The group as well has 6 representative offices in Russia, Romania, Ukraine, Serbia and South Africa. The employment staff of the group are 11.175 worldwide. The bank of Cyprus total assets amounted to 38.66 billion euro and 31 March 2012 and the shareholders funds were 2.85 billion euro. The shares of the group are listed on Cyprus and Athens Stock Exchanges.

Laiki Bank

Laiki Bank was established in 1901 as a small savings to make today a strong financial institution with an international orientation. Today the Group has a presence in 10 countries: Cyprus, Greece, United Kingdom, Ukraine, Russia, Romania, Serbia, Malta, Gurnsey and China. It maintains 439 stores and employs 8,464 people. It serves a total of 1,350,000 customers. It offers services to individuals, corporate and commercial, Personal Banking Services (Private Banking), Foreign Exchange and Treasury (Treasury), Electronic Banking, Factoring, Financing and Leasing (Leasing), International Banking Services, Shipping Services, Insurance Services, Stock broking and Asset Management. Discrimination in technology leadership, customer centric approach and an anthropocentric philosophy of Laiki Bank make it more than a bank. Laiki Bank is based in Cyprus and operates under the control and supervision of the Central Bank of Cyprus.

CHAPTER 4

ANALYSIS OF FAINANCIAL RATIO OF BOCY RESULTS

At this chapter it had been shown the financial ratio analysis of BOCY with the ratio that included in this study. This ratio analysis gives forthright financial information in this current business world. By giving a glance anyone will be able to know what the situation that institution is now. Consequently managers, shareholders, creditors etc. all take interest in ratio analysis. For instance, using liquidity ratios managers can use the information if the institution's liquidity is struggling and they might have to get out short term finance. For this reason to estimate the performance of BOCY the ratio analysis has been selected. This report contains the most common ratios and analyzes to evaluate the performance of BOCY over the years 2004, 2005,2006, 2007, 2008 ,2009,2010 and 2011. Then it has been set a comparison with Marfin Laiki Bank and finally it been calculated the Aldamn's Z-score for both of the banks.

LIQUIDITY RATIOS

As BOCY is a financial institution the liquidity ratios are the most important ratios to evaluate its liquidity to pay its short term debt and deposits. This ratio shows how quick BOCY is able to pay or convert its assets into cash. To know how liquid the BOCY is its current ratio and quick ratio is analyzed here.

CURRENT RATIO

This ratio is calculated by dividing the total current assets of an institution by its total current liabilities. Generally, higher the ratio is the greater the company's liquidity. Also, it shows how every institution like BOCY meets its current liabilities through its current assets. As a general rule a company with a quick ratio of a smaller amount than 1 cannot pay back its current liabilities for the specific time.

Table 2: LIQUIDITY RATIOS

YEAR	2011	2010	2009	2008	2007	2006	2005	2004

Current Ratio	1.07	1.09	1.09	1.07	1.08	1.07	1.06	1.06
Quick Assets	2,808.3	3,423.6	2,117.7	2,261.7	1,931.9	1,673.2	1,524.6	1,346.6
Quick Ratio	8.03%	8.7%	5.85%	6.67%	6.55%	7.21%	7.41%	8.1%

According to the results the current ratio of BOCY was 1.07 in 2011, 1.09 in 2010 and 2009, 1.07 in 2008 and 2006, 1.08 in 2007 and 1.06 in 2005 and 2004. In 2011 the current ratio was 1.07 which means BOCY had 1.07 euro of current assets against 1euro of short term debt or liability. It means BOCY had the ability to pay off its current liabilities with its current assets. In 2010 the current ratio was 1.09 which was more than 2011 which means in 2010 BOCY invested more in short term assets. On the other hand in 2005 and 2004 the current ratio was 1.06 which means BOCY investment in current assets was lower than all years. In fact, the higher the current ratio is the better for the institution because this higher ratio helps to prevent getting default.

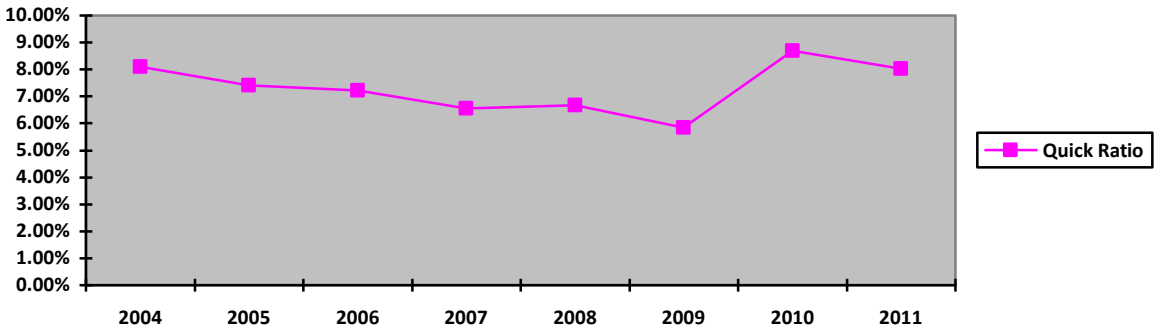

Figure 1: Quick ratio

LEVARAGE RATIOS

Leverage ratios are used to calculate the financial leverage of an institution. It helps to get an idea of the institution's methods of financing or to measure its ability to meet financial obligations. There are several types of ratios whose main factors are debt, equity, assets and interest expenses.

LONG-TERM DEBT TO EQUITY RATIO, TOTAL DEBT TO EQUITY RATIO, TOTAL DEBT TO TOTAL ASSETS RATIO AND TOTAL EQUITY TO TOTAL ASSET RATIO

Long term debt to equity ratio is one of the financial leverage ratios which are used in banking sectors to know the link between the long term debt and equity. The ratio is calculated by taking the institution's long-term debt and dividing it by the total value of its equity. Total debt to equity ratio is one of the banking financial leverages which is calculated by dividing its total liabilities by stockholders' equity. It mainly indicates the proportion of equity and debt that a bank is using to finance its assets. Total debt to total asset ratio measures a bank's financial risk. It determines how much of the bank's assets have been financed by the debt. It is calculated by total debt divided by the institution's total assets. Total equity to total asset ratio is one of the leverage ratios which is used by organizations like banking sectors. It determines how much of the bank's assets have been financed by the equity.

Table 3: LEVARAGE RATIOS

YEAR	2011	2010	2009	2008	2007	2006	2005	2004
Long-Term debt to equity	0.05	0.09	0.3	0.8	0.7	0.6	0.9	0.9
Total-debt to equity ratio	21.75	13.46	14.17	15.94	14.23	14.47	15.23	16.64
Total Debt to Total	90.9%	89.3%	89.4%	90.8%	89.82%	89.8%	90.6%	90.7%

Assets Ratio								
Total Equity to Total Assets Ratio	4.18%	6.63%	6.30%	5.57%	11.75%	6.21%	5.95%	5.45%

Figure 2: Long-Term Debt to Equity Ratio

This ratio measures BOCY's long-term sources of fund. Here, from these figures it is noticed that most of the BOCY's long term sources of fund come through the long term liability like fixed deposits and multiple saving schemes. In 2011 this leverage ratio was 0.05 which means BOCY long term funds come from depositors' deposits rather than the stockholders 'equity. On the other hand in 2008, 2007, 2006, 2005 and 2004 the Long-term Debt to Equity Ratio was respectively 0.8, 0.7, 0.6, 0.9 and 0.9 which was more than 2010 and 2011.

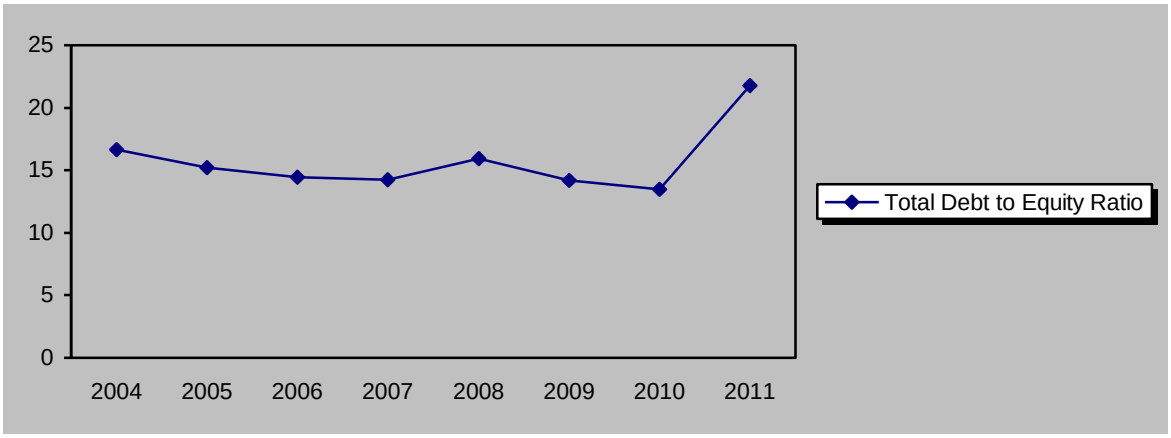

Figure 3: Total Debt to Equity Ratio

In year 2011, 2010, 2009 and 2008 the ratio was 21.75, 13.46, 14.17, and 15.94 accordingly. The result shows that in 2011, BOCY was financed most of its assets through the debt which means through deposits.

As a result the bank is doing well by increasing its deposits over years like 2011, unlike in 2010 when it had decreased its deposits. This higher outcome over years not only increases the risk but also increases the profit.

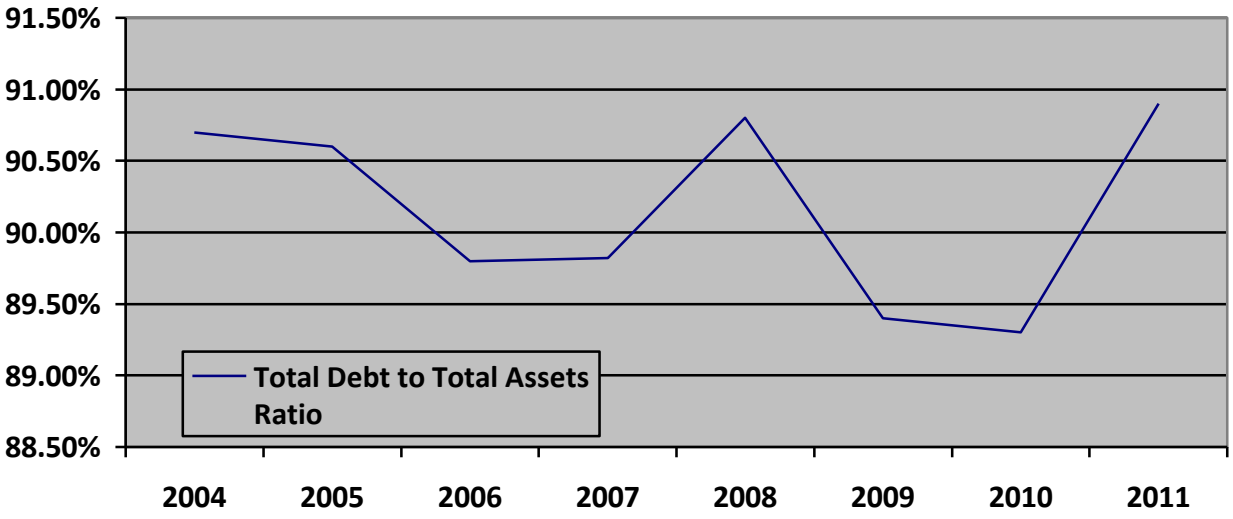

Figure 4: Total Debt to Total Assets Ratio

Almost all of the BOCY's assets are financed by its debt. It works by taking the deposits from the general and invest it in different sectors. From the year 2004 to 2011the ratios were 90.7%, 90.6%, 89.8%, 89.82%, 90.8%, 89.4%, 89.3% and 90.9% which are almost same. The higher ratio is it may increase more risk because if BOCY defaults in any investment then the depositors will also default.

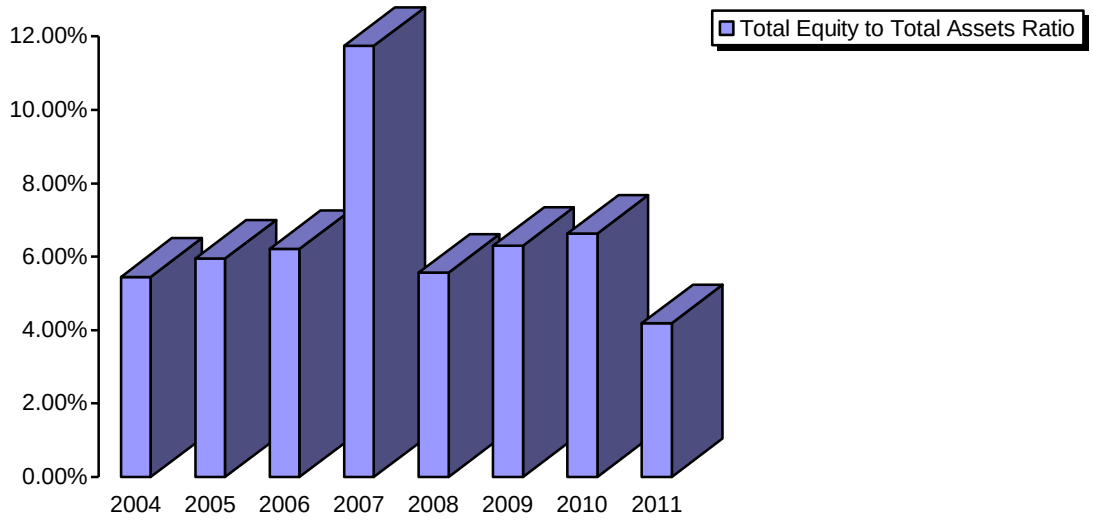

Figure 5: Total Equity to Total Assets Ratio

BOCY's almost all fund was collected from the depositors so the shareholder's contribution on this organization is too low. The outcome of this ratio over the years was upward since 2007. In year 2007the ratio was 11.75%, which is quite different from the other years. The reason behind this downward slope after 2007 was that the bank's deposits are increasing over years and shareholders are less exposed to the risk than the depositors or debtors are.

EFFICIENCY RATIO

Efficiency Ratios determine the efficiently of using its assets and managing its operations.

ASSETS TURNOVER RATIO, FIXED ASSETS TURNOVER RATIO AND CURRENT ASSETS RATIO

Assets turnover ratio measures the turnover of the firm's total assets. It is calculated by dividing net interest income by total assets. The fixed assets turnover ratio measures how effectively the bank uses its fixed assets or long term investment. The current asset turnover ratio indicates how efficiently the firm is using its current assets.

Table 4: EFFICIENCY RATIO

YEAR	2011	2010	2009	2008	2007	2006	2005	2004
Assets Turnover Ratio	-3.67%	0.70%	0.82%	1.3%	1.54%	1.25%	0.56%	0.37%
Fixed Assets Turnover Ratio	-2.91	0.72	0.79	1.14	1.53	1.18	0.45	0.24
Current Assets Ratio	-0.039	0.007	0.008	0.014	0.016	0.013	0.006	0.004

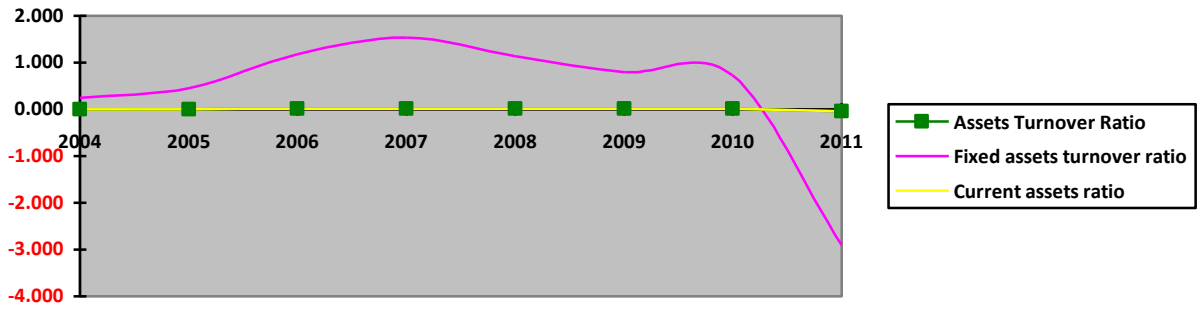

Figure 6: Efficiency ratio

BOCY's asset turnover ratio was low from the year 2004 to 2010. The ratios were 0.0037, 0.0056, 0.0125, 0.0154, 0.013, 0.0082 and 0.007 times from year 2004 to 2010. The ratio was too much lower for 2011 at -0.0367 times. These ratios indicate that BOCY was not

generating a sufficient volume of revenue given to its total asset investment. To increase this ratio BOCY had to utilize its sources of fund on those assets which may bring more revenue to the bank.

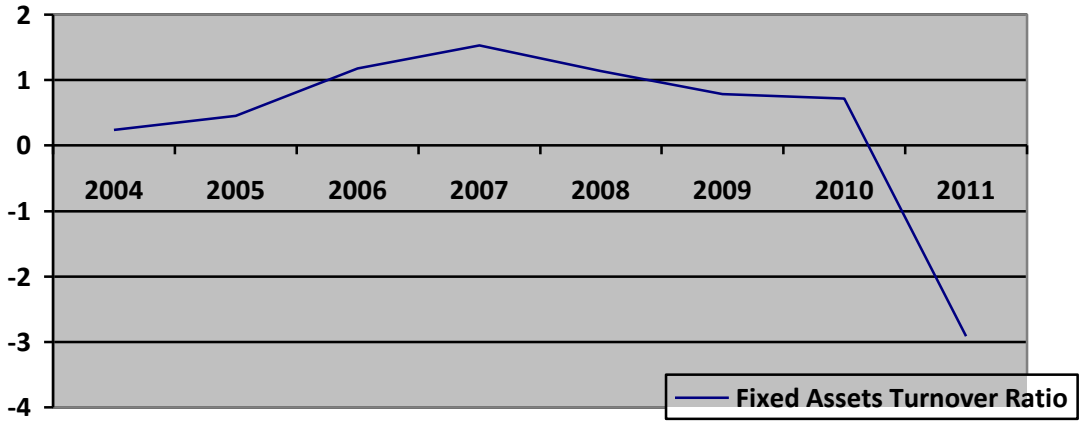

Figure 7: Fixed Assets Turnover Ratio

The analysis of fixed assets turnover ratio shows the downward slope of BOCY. From the year 2004 to 2008 the ratios were 0.24 to 1.14 times; as a result this figure is growing over the years. Then it started to move downgrade from 2009 to 2011 was 0.79, 0.72 and -2.91. This lower fixed-asset turnover ratio shows that BOCY had less effectiveness in using the investment in fixed assets to generate its revenues and that it is falling year after year.

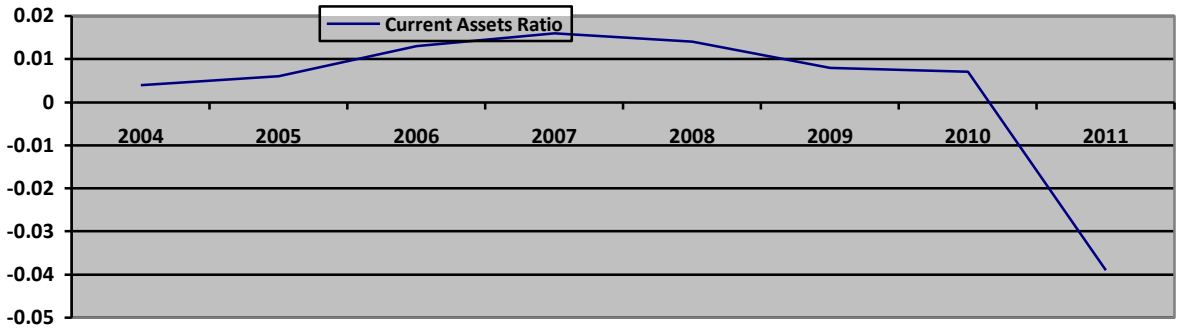

Figure 8: Current Assets Ratio

From the above figure it has been shown that the current assets ratio ratios indicate that BOCY was not generating efficiently to use its current assets. To increase this ratio BOCY had to utilize its current assets more efficiently.

MARKET VALUE RATIO

Market value ratios relate the observable market values like the stock price with the book values obtained from the firm's financial statements.

PRICE EARNINGS RATIO

Price earnings ratio shows how much an investor is willing to pay per euro of the reported profit. It is calculated by dividing the stock price per share by the earnings per share (EPS). The data was available from 2007 to 2011 and not for the years 2006 to 2004.

Table 5: Price Earnings Ratio

YEAR	2011	2010	2009	2008	2007
EPS	-3.38	2.71	16.64	45.72	72.04

This ratio outcome shows the BOCY's reduction. According to the BOCY's P/E ratio in year 2010 the investor wants to invest 2.71 times for 1 euro profit. In the year 2007 the P/E ratio was higher at 72.04 times which means it had a reduction on rate. Moreover, the year 2011 had a worse P/E ratio than the year 2010 which was -3.38 times.

ADEQUACY RATIOS

CAPITAL ADEQUACY RATIO, CORE CAPITAL ADEQUACY RATIO AND SUPPLEMENTARY CAPITAL ADEQUACY RATIO

Adequacy Ratio is a ratio of a bank's capital to its risk. It is expressed as a percentage of a bank's risk weighted credit exposures. Core capital is the minimum amount of capital that a bank has to have to ensure protection of consumers. It is expressed as a percentage of a bank's risk weighted credit exposures. When the ratio is higher from the margin then it is more secured to its risk weighted assets. Supplementary capital is secondary to the bank capital and includes items such as undisclosed reserves, unclassified loans, assets revaluation reserve and so on.

Table 6: ADEQUACY RATIOS

Year	2011	2010	2009	2008	2007	2006	2005	2004
Capital Adequacy Ratio	7.8%	11.9%	11.6%	11%	12.6%	12%	14%	13.7%
Core Capital Adequacy Ratio	7.5%	11.3%	10.5%	7.27%	9.66%	9.04%	9.8%	9%
Supplementary Capital Adequacy Ratio	0.3%	0.7%	1.1%	4%	3%	3%	4%	5%

To exist in a well-capitalized under federal bank regulatory agency definitions, a bank holding company should have a Tier 1 capital ratio of at least 6%, a combined Tier 1 and Tier 2 capital ratio of at least 10%, and a leverage ratio of at least 5%.

Keeping the above in mind it has been shown that in 2011 the CAR required for BOCY was 7.8% which was determined by the Cyprus Bank and the actual CAR was 7.8%. The lower CAR means that BOCY had less amount of capital to support its risk weighted assets. It increases the risk of the bank because if any investment gets default then BOCY will get into problems to pay its deposits. In 2005, the CAR required was 14% higher for the examined period. This CAR was higher than the standard of BB which means BOCY was more secured by its capital to the risk weighted assets.

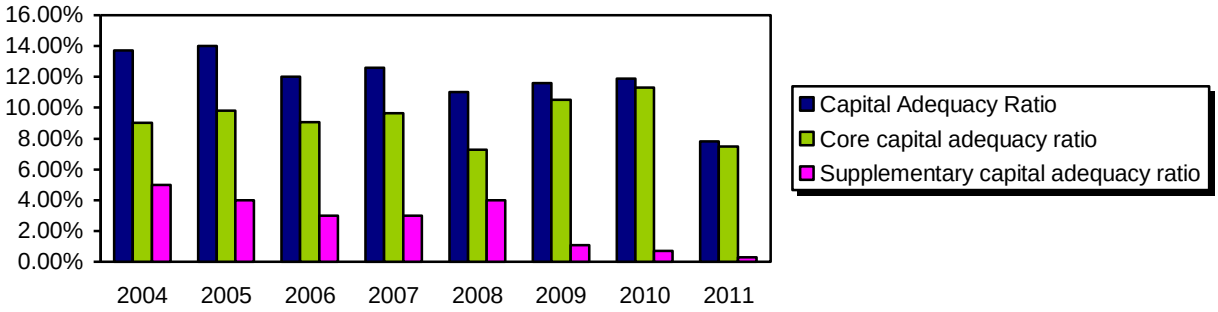

Figure 9: Capital Adequacy Ratio, Core Capital adequacy ratio and supplementary capital adequacy ratio

We suppose that the margin was 5%. This figure was lower than the margin, except in 2004 when it was 5%, which indicates that the bank was in a riskier position, so BOCY had to be asked to increase its capital. Here, it is noticed that the supplementary capital ratio of BOCY was lower in these years which implies that BOCY's supplementary capital is more exposed to risk by risk weighted assets.

Different financial institutions may have a different methodology of adequacy ratio calculation like BOCY which has less supplementary capital than the core capital but its CAR almost matches its standard.

OTHER IMPORTANT RATIOS FOR BANKS

There are some ratios which show the bank's solvency and long-term act.

LOAN TO ASSET RATIO, LOAN TO DEPOSIT, NON-PERFORMING LOANS TO LOANS RATIO, RATE OF RETURNS ON LOANS RATIO AND NET CHARGE-OFFS TO TOTAL LOANS RATIO

It is calculated by dividing the amount of loans by the amount of total assets of a bank. A loan to deposit ratio is a form of percentage when total loans are divided by total deposits. A non-performing loan is a loan that will not be recovered. Non-performing loans indicate the percentage of non-performing loans that a bank has.

Table 7: Loans Ratios

YEAR	2011	2010	2009	2008	2007	2006	2005	2004
Loan to Assets Ratio	84.63 %	80.37 %	82.65 %	82.64 %	80.77 %	77.88 %	77.92 %	77.60 %
Loan to Deposit	96.93 %	93.48 %	94.77 %	96.02 %	95.56 %	91.47 %	91.50 %	90.60 %
Non-Performing Loans to Loans Ratio	4.7%	3.4%	2.7%	2.3%	2.6%	4.1%	4.1%	5.9%
Rate of Return on Loans Ratio	-4.34%	0.88%	0.98%	1.6%	1.9%	1.6%	0.73%	0.48%
Net Charge-offs to Total Loans Ratio	0.07%	0.65%	0.12%	0.04%	0.21%			

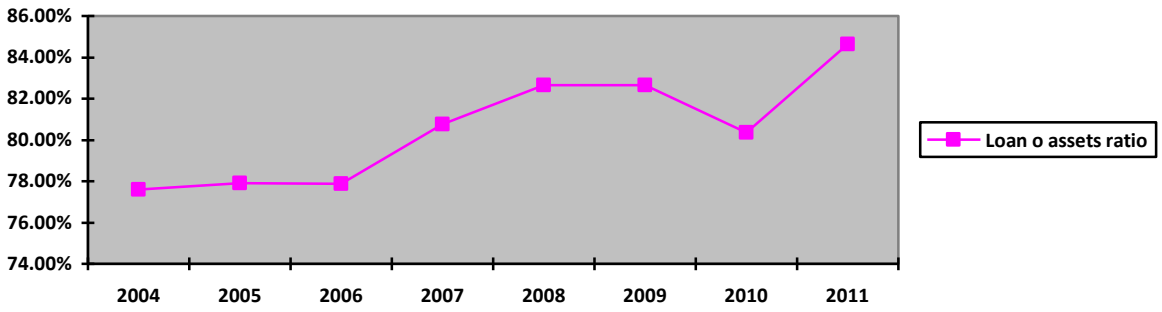

Figure 10: Loan to Assets Ratio

In years 2004, 2005, 2006, 2007, 2008, 2009, 2010 and 2011 BOCY's loan to total asset ratio was respectively 77.60%, 77.92%, 77.88%, 80.77%, 82.64%, 82.65%, 80.37% and

84.63%. The higher the ratio the more risk the bank has. These higher loans to assets ratios mean that the bank has 77.60%, 77.92%, 77.88%, 80.77%, 82.64%, 82.65%, 80.37% and 84.63% of loan and advance in the assets part of financial statements of 2004, 2005, 2006, 2007, 2008, 2009, 2010 and 2011. As the bank's main business is interest earnings so the larger percentages of this ratio bring more revenue to the bank. As a result, 2011 incurred more revenue than other years. But that is considered as risky behaviour.

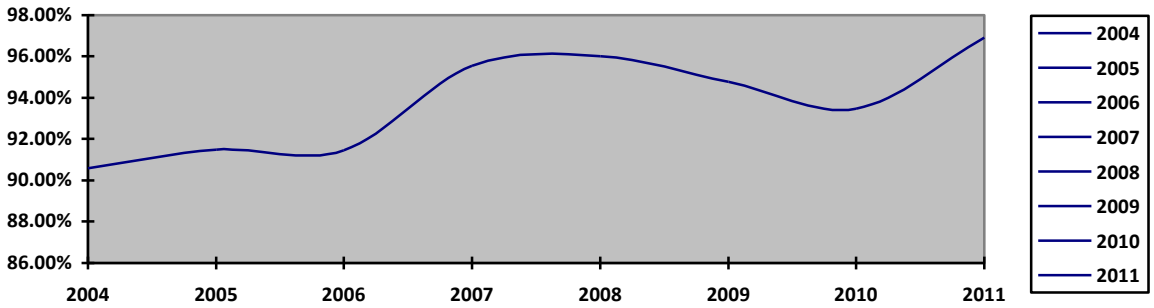

Figure 11: Loan to Deposit Ratio

In years 2004, 2005, 2006, 2007, 2008, 2009, 2010 and 2011 the ratios of BOCY were respectively 90.60%, 91.50%, 91.47%, 95.56%, 96.02%, 94.77%, 93.48% and 96.93%. These ratios show a relationship between loans and advances to total deposits. This indicates how much productively the deposits are used. Analysis shows an increase in 2011 because advances were also increased sharply with the increase of deposits. This condition is favourable for the bank. But in 2008, deposits increased by closed to higher rate than an increase in loan which indicates a difficult situation of BOCY. On the other hand 2010 had a better ratio than 2007, 2008, 2009 and 2011.

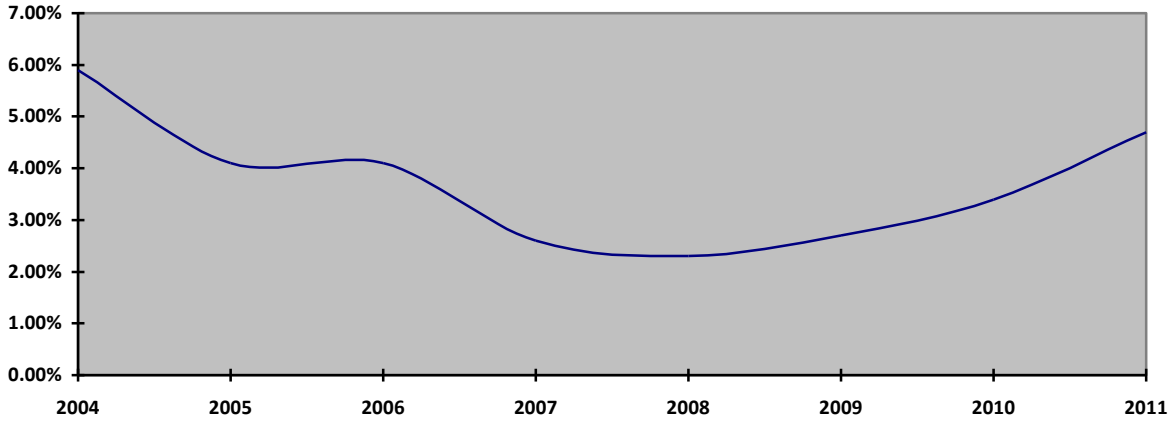

Figure 12: Non-Performing Loans to Loans Ratio

This ratio should be lower at any cost because the higher outcome indicates that the bank has serious problems with collecting its debts. The ratio is getting worse over the years. In 2011the ratio came to 4.7% which is higher than the ratio was in 2007, 2008 and 2009. In 2004 the ratio was higher at 5.9%. The whole trend of the ratio had increased and decreased throughout all years quite largely.

RATE OF RETURNS ON LOANS RATIO

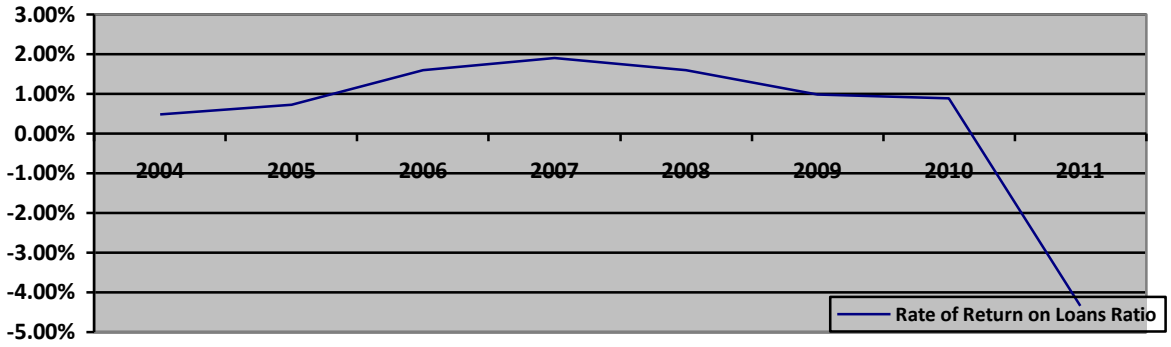

Figure 13: Rate of Return on Loans Ratio

In years 2007, 2008, 2009, 2010 and 2011 the ratios were respectively 1.9%, 1.6%, 0.98%, 0.88%, and -4.34%.The rate of return at loans of the BOCY is decreasing over those years.

On the other hand, in the previous years the rate was increased. This shows that the bank is not in a good position when we compare that percentage to the interest income of BOCY with its loans. From year 2007 to 2011 the return is getting down which indicates that the industry became more competitive over the years. Thus, the bank's earning over the years is falling in favour of the interest income on its loans.

For the net charge-offs to total loans ratio the data are from 2007 to 2011 only.

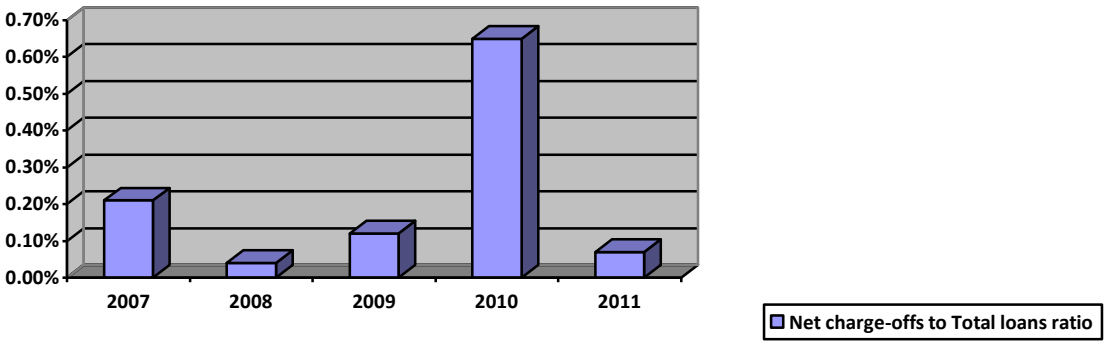

Figure 14: Net Charge-offs to Total Loans Ratio

For the BOCY the ratio of net charge-offs to total loans decreased from 2007 to 2008 then increased for 2009 and 2010 to 0.65% and finally decreased to 0.07% for 2011. This shows that the bank is not in a good position when we compare that to the net-charge offs of BOCY with its loans. From year 2010 to 2011 the return is getting down which indicates that the industry was converted into more aggressive over years. Thus, the bank's lending over years is growing in favour of net charge offs on its gross loans.

PROFITABILITY RATIOS

Profitability Ratios determine the overall earnings performance of an institution and its efficiency in utilizing assets, liabilities and equity.

Profitability of a bank mainly depends on the loans of that bank. More specifically, how efficiently the banks are utilizing their assets: in other terms, the loans. Banks are not only always looking for their profits but also need to be careful about the risk of those loans.

The financial statement of the Cyprus Bank branch shows their provisions for bad debts in the years. As a result, it is suitable as the reflection of the branch position and loans size.

NET PROFIT MARGIN, RETURN ON EQUITY (ROE), RETURN ON ASSETS (ROA), NET BANK OPERATION MARGIN AND EARNING PER SHARE RATIO

Net Profit Margin is a ratio of profitability which is calculated by dividing the net profit after taxation by revenues or net interest income. It measures how much BOCY is really earning from its each euro of revenue. Return on equity measures a bank's profitability which calculates how much net profit that bank may generate with the money that shareholders have invested as equity. ROA is a profitability ratio which shows how profitable a bank is related to its total assets. ROA gives an idea on how efficient the management of a bank is to generate profits using its assets. Net bank operating margin is defined as the total operating revenues minus the total operating expenses over the total assets. This ratio explains how effectively management is running its operations by using assets to generate income and expenses. Earnings per share ratio are characterized as one more indicator of the company's profitability.

Table 8: Net profit margin

Year	2011	2010	2009	2008	2007	2006	2005	2004
Net profit margin	-89.81 %	22.18 %	29.59 %	50.08 %	54.89 %	41.52 %	18.95 %	10.65 %
ROE	-87.93 %	10.69 %	12.95 %	23.28 %	24.46 %	20.24 %	9.51%	6.87%
ROA	-3.68%	0.71%	0.82%	1.33%	1.54%	1.26%	0.57%	0.38%
Net bank operation margin	2.14%	1.69%	1.55%	1.79%	1.95%	1.90%	1.39%	1.26%
Earnings per share	-93.23%	10.37%	13.52%	22.53%	27.55%	22.59%	10.79%	7.64%

ratio

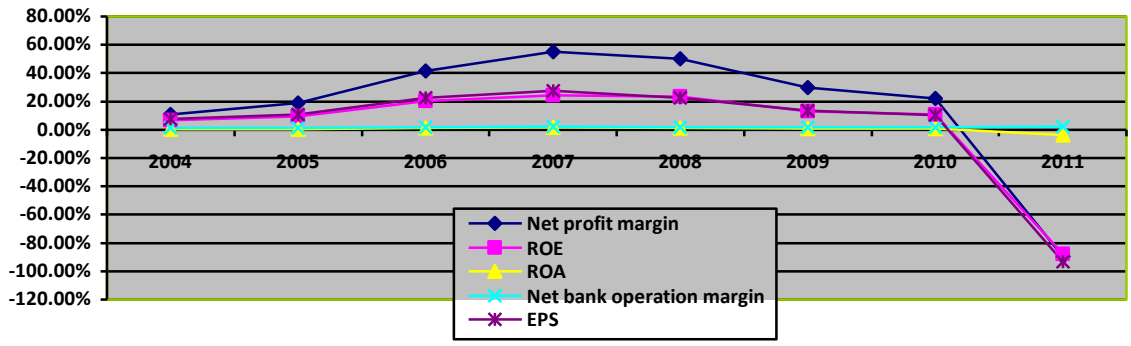

Figure 15: Net profit margin

The greater the outcome the better the BOCY's performance is. In 2007 the result was 54.89% which means that out of 100 euro of net interest income BOCY's net profit was 54.89 euro. On the other hand, in 2009 and 2010 the net profit was 29.59 and 22.18 against 100 euro of net interest. In the year of 2010 the bank had a good but down-create profit margin in percentages and oppositely in 2011 BOCY's net profit margin was worse than the years before. That means that in 100 euro of the net interest income BOCY's net profit was -89.81 euro, which is translated as losses and not profit.

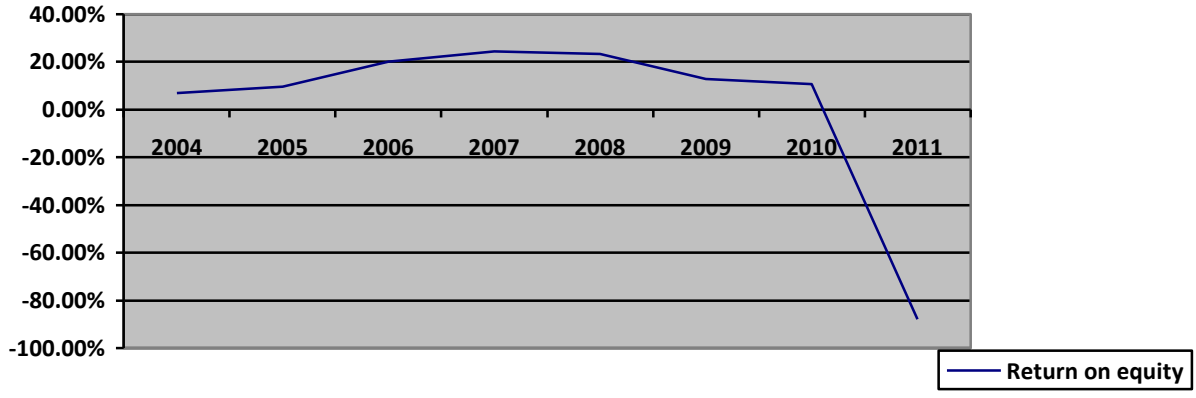

Figure 16: Return on Equity

ROE is a very popular ratio toward the shareholders of any bank. After doing the analysis from BOCY's financial statements it shows that in years 2010, 2009, 2008, 2007, 2006, 2005 and 2004 the return from 100euro invested by the shareholders was respectively 10.69, 12.95, 23.28, 24.46, 20.24, 9.51 and 6.89. It has been shown that that was an up - drawn from 2004 to 2007 and then it was followed by a down- drawn at 2011 to -87.93. The higher the percentage is the better for the bank as well as for shareholders. It is obvious that 2011 was a bad year.

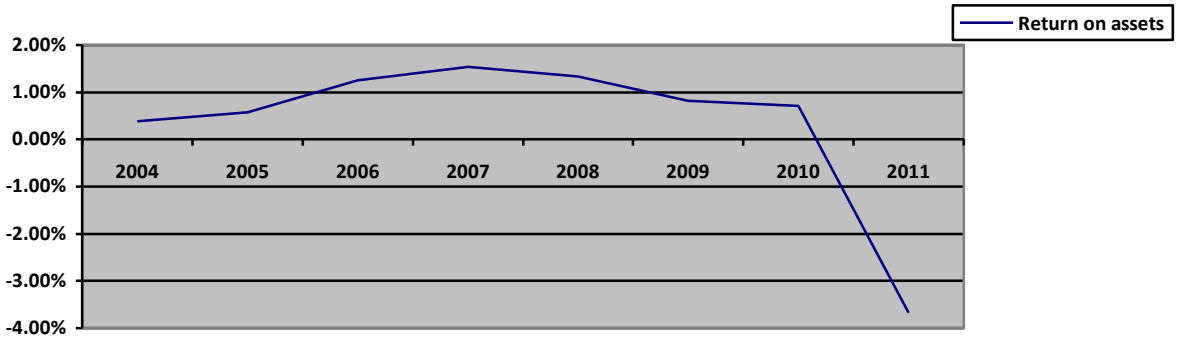

Figure 17: Return on assets

ROA is the most used profitability ratio. As BOCY was a part of the banking industry and most of its assets come from the debt which was the reason for its low net profit as well as poor ROA. As a result, the BOCY had low ROA in the year of 2010, 2009, 2008, 2007, 2006, 2005 and 2004 which were 0.71%, 0.82%, 1.33%, 1.54%, 1.26%, 0.57% and 0.38% respectively. In the year 2011 the net profit of the bank had a slighter worse growth rate rather than its assets growth to -3.68%. Even though the return on assets was lower – 3.68% the decrease was made 3.97% from 2010 to 2011.

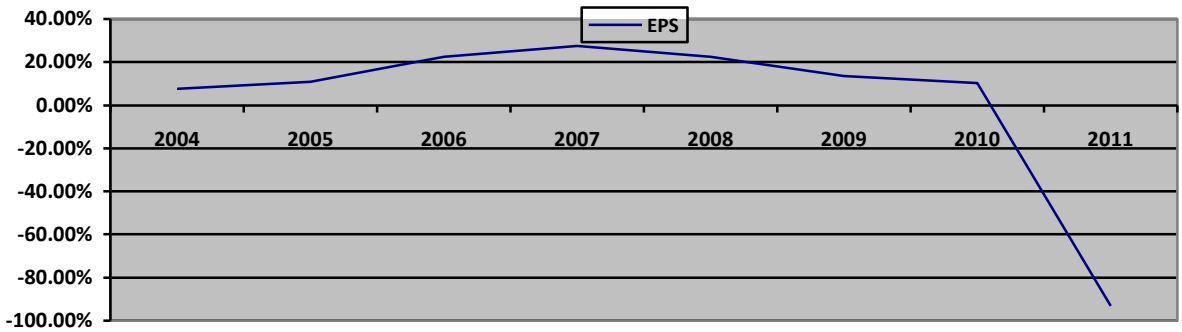

Figure 18: EPS RATIO

If we increased in net income then the EPS could fall below the previews year's level and that is what had happen in BOCY's case. In 2011 the ratio falls much more than the years before to -93.23%. BOCY shows negative earnings on the income statement and this is not a good situation to be in for a long time, because it means that the bank has to borrow money to keep operating. And at some point, it will not be able to borrow money from others.

BANK RISKS

In this analysis the credit risk, liquidity risk, earning risk and solvency risk for the bank have been measured for the last 8 years.

Credit risk is the largest source of risk that banking institutions face. The ratio of non-performing loans to total loans and leases shows that if this ratio is large then the bank might fail. In the calculations, as shown above, the bank does not face this ''problem''.

Liquidity risk is the current and prospective risk to earnings or capital arising from a bank's inability to meet its obligations when they come due without incurring unacceptable losses. This ratio of total loans/ total assets indicates that if this ratio is high it means that there are less cash available and there is a higher chance to liquidity crunch. From the calculations it can be said that the net income increase since 2007 and then it is decreased to -1.377.8 tin 2011.

Earning risk is the standard deviation of net income, return on assets and return on equity. The higher the standard deviation of bank income, the more risky the bank earning picture is. From the calculations the earning risk had high price so the BOCY's picture is risky. Solvency risk is the probability of the value of the bank's assets declining below the level of its total liabilities. The probability of the bank's long run survival is at question.

Table 9: Earning Risk

Year	2011	2010	2009	2008	2007	2006	2005	2004
Earning Risk	1188.152	13.788	110.804	8.344	125.653	133.714	40.871	
Solvency Risk	6.48%	6.63%	6.31%	5.69%	7.22%	6.86%	5.95%	5.45%

COMPARE ROE WITH ROA

These ratios together provided a clear picture of management's effectiveness. ROE for BOCY had a higher price than ROA. Hence, a strong ROE is a sign that managers are doing a good job. On the other hand a high ROE can give investors a false impression about BOCY future. In the case of BOCY we had a low to very low ROA which means that the company carries a lot of debt. When debt increases, equity gets smaller which is also the ROE's denominator. ROA had as a denominator the total assets and when a company takes on debt, ROA increases. As a result, debt increases ROE in relation to ROA.

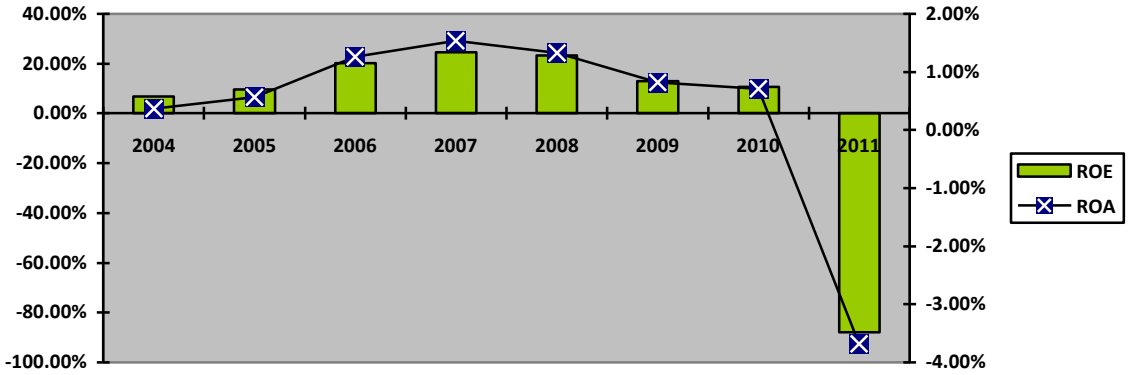

Figure 19: ROE VS ROA

As it had been shown from the figure above and the financial statement the net income for both sectors was increased since 2010 and suddenly for 2011 decreased. The same situation was for the total equity of the sector of ROE and the total assets of the sector of

ROA where it increased since 2010 and for 2011 had decreased. That can be as an effect of the BOCY's exposures to the Greek bonds.

COMPARE ROA WITH SOLVENCY RATIO

It was chosen to compare ROA with solvency ratio because there is a common variable which is the total assets and to see how this affected equity to net income.

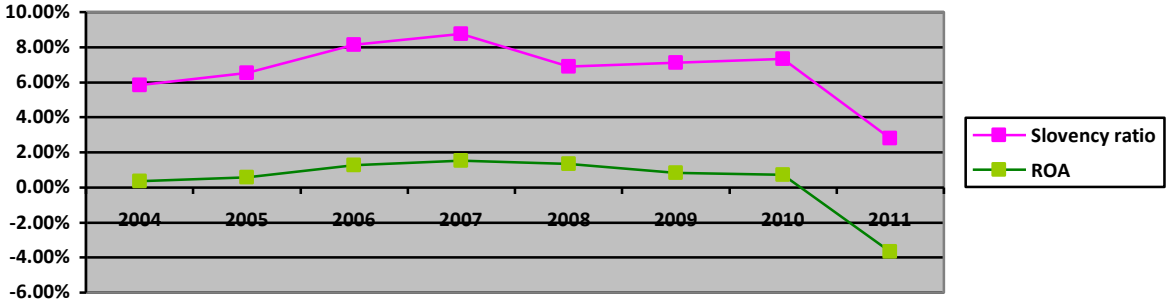

Figure 20: ROA VS Solvency ratio

It had been shown from the chart above as the net income increases, the equity increases. Moreover, when the net income decreases negatively, the equity decreases but at positive prices. So, net income and equity are positively correlated between them.

COMPARE BOCY WITH CYPB

To this research it been decided to compare the two groups of banks because they belong to the same category. Looking back on the events, only almost a year before, we see that the group of Laiki Bank was in the same position with the group of Cyprus Bank today, for different reasons and causes for each one. When it says at the same position it means that the banks were in a critical position where there was no cash and a need of immediate debt. This view will be accepted or rejected by the following comparison of the two banks with key ratios.

In the next table we indicate the numbers of ROA% and ROE% for the two banks.

Table 10: ROA% & ROE% OF BOCY% CYPB

Year / Ratio	2011	2010	2009	2008	2007
ROA% BC	-3.67657	0.709466	0.817022	1.325774	1.54424
ROA%PB		2.449675	4.532879	11.32388	17.03234
ROE%BC	-1618	348858.3	398600.6217	705958.3	575373.4
ROE%PB		0.209486	0.407379	1.051542	1.960169

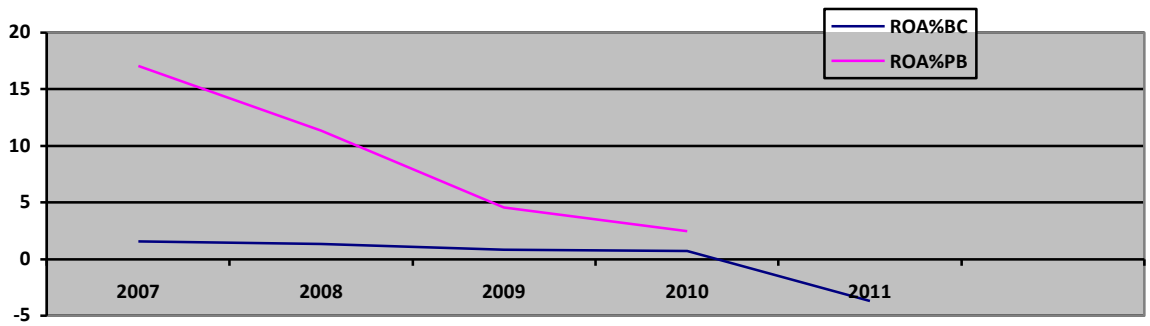

Figure 21: ROA%BC & ROA%PB

As it has been shown from the above figures the bank of Cyprus has a lower return on assets but stable since 2010. At 2011 we can see a sudden decline. According to a classification that says Golin (2001), ROA banks with less than 0.5% are considered weak, with ROA 0,5% -1,0% moderate, 1.0% -2.0% and well above the 2.0 % very good. However, if the ROA be 2.5% and more is characterized as exceeding. In our case BOCY has weak ROA for 2011, moderate for 2009 to 2010 and for the rest of the year 2008-2007 it was positive. On the other hand PB had a very good ROA for 2010 and for the period 2009 to 2007 had an exceeding ROA. The analysis of the banks found that most of the assets mentioned in efficiency use net profit after tax, but some use their profits before

taxes, on the premise that the performance of the assets should not be affected by the amount of taxes. ROE is the indicator of how many interested shareholders are, since they want to see the return on capital invested. From the above table it has been shown that BOCT has a better ROE for the period 2010-2007 in contrast with CYPB . The year 2011 BOCY has a negative ROE.

COMPARE NET NONINTEREST MARGIN' S OF BOCY AND CYPB

Table 11: N.N.M. COMPARE

	2011	2010	2009	2008	2007
N.N.M.BOCY	0.976115	0.751682	0.605408	0.423738	0.429743
N.N.M.CYPB		0.793792	0.453998	0.652097	0.103776

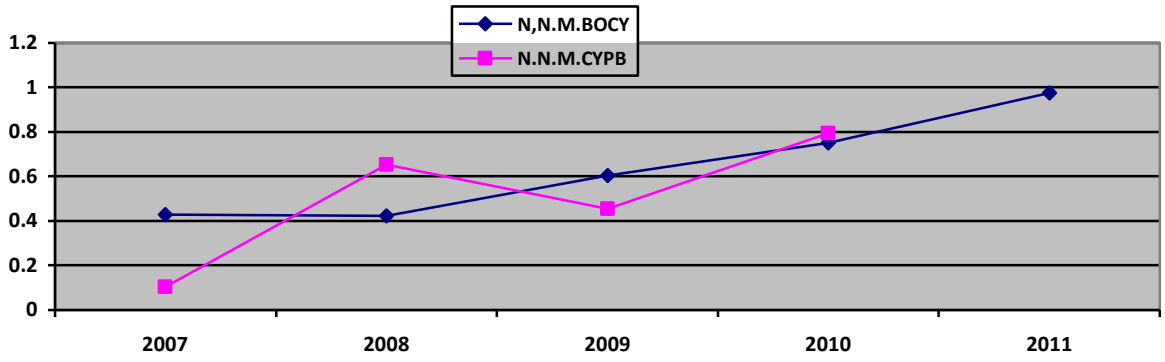

Figure 22: N.N.M COMPARE

The less volatile the sources of non-interest income, the lower the risk of this form of income, and the stable this ratio will be. According to Golin (2001), this ratio might be the most appropriate to show the profitability of the remuneration of the bank. The value of

this index is influenced by several factors. For example, keener competition pushes banks to small interest margins, while the opposite is the case being "Agreement" banks to maintain high margins. Also, the consumer trend toward savings or consumption affects interest margin accordingly. Comparing the two banks BOCY has higher and stable to upward trend in addition with CYPB who has unstable fluctuation.

COMPARE EARNINGS PER SHARE (EPS) OF BOCY AND CYPB

TABLE 12: EPS COMPARE

	2011	2010	2009	2008	2007
EPS.BOCY	**-0.93233**	**0.103774**	**0.135225**	**0.22526**	**0.275593**
EPS.CYPB		**0.023012**	**0.044282**	**0.108747**	**0.172684**

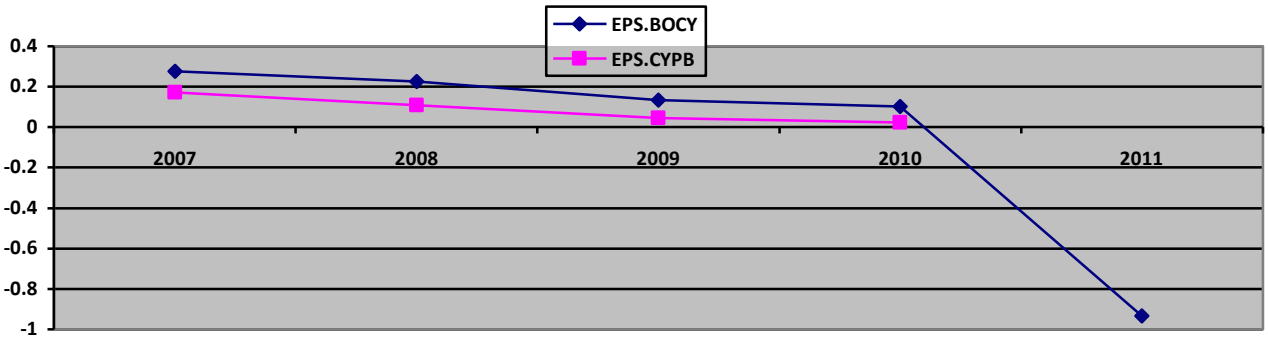

Figure 23: EPS COMPARE

According to Golin (2001), EPS is a charily inspect metric that is often used as an indicator to estimate a company's profitability per unit of shareholder ownership. As such, earnings per share are characterized as a key in way of share prices. While earning per share is generally considered to be the largely popular method of quantifying a firm's profitability, earnings per share remains the industry's standard in determining corporate profitability for shareholders. From the above figure both banks have stable to downward move and price can be regarded as low. BOCY has a sharply decline.

COMPARE RISKS FOR BOCY AND CYPB

TABLE 13: COMPARE RISKS

	2011	2010	2009	2008	2007
C.R.BOCY	0.047793	0.033979	0.0267774	0.023053	0.022566
C.R.CYPB		0.031577	0.027661	0.025429	0.028897
L.R.BOCY	0.0846325	0.803765	0.826560	0.826409	0.807796
L.R.CYPB		0.754523	0.701459	0.743257	0.768921
S.R.BOCY	0.064819	0.066333	0.063068	0.056953	0.072225
S.R.CYPB		0.085516	0.089872	0.09861	0.115085

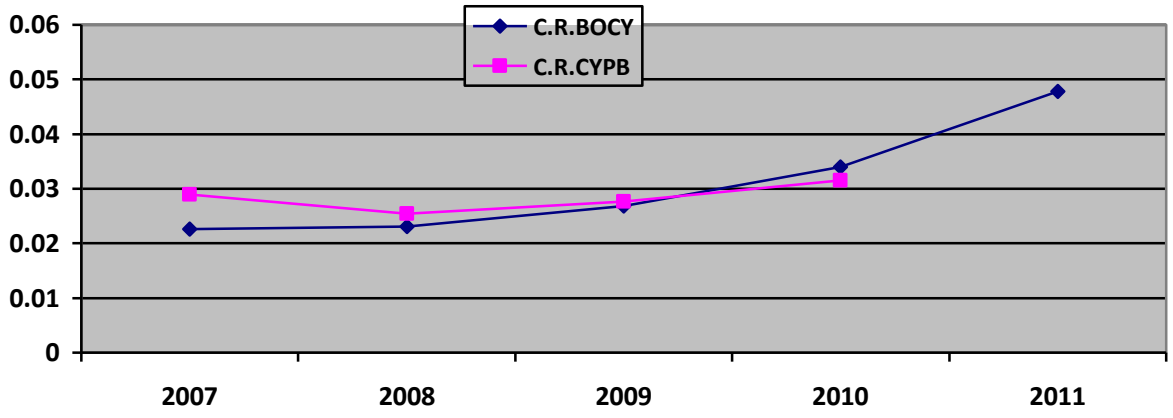

Figure 25: COMPARE CREDIT RISK

From the above it can be tell that the banks had opposite moving across the years. It can observe that during the mid 2009 there is a tangential of the credit risk: in other words they had the same credit risk in the mid 2009.

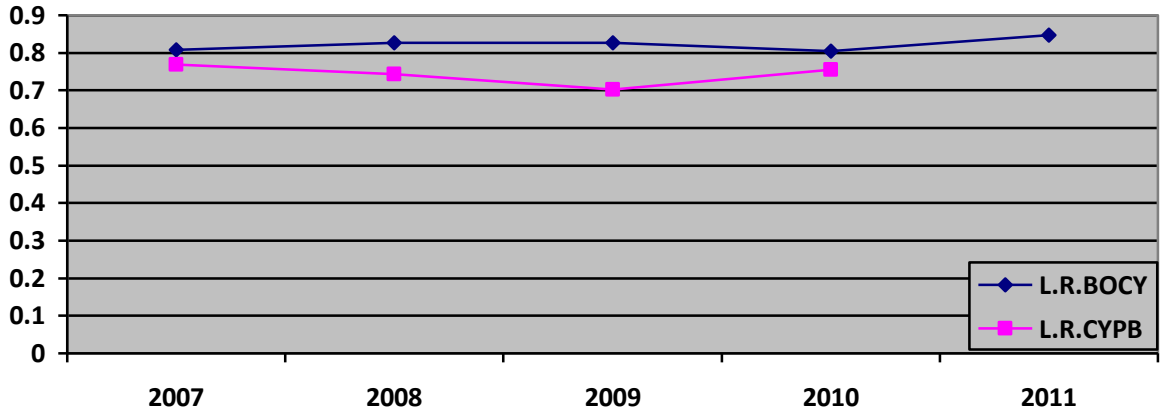

Figure 26: COMPARE LIQUIDITY RISK

According to Golin (2001)'' liquidity is one of the most important factors associated with the operation of commercial banks, as its absence leads to a chain reaction leading to bankruptcy. One definition of liquidity is the ability to respond to the bank or obligations which require to be repaid, or applications for credit, whether the current needs of the Bank itself, such as payment of salaries and bills.'' For instance, in the first case, the bank is trying to respond to requests for taking out of money from their savings accounts to its customers, since if you begin to have difficulties, then it will cause worry between depositors and all, they will be alarmed, run to pick up their money, and as a result the bank will be led to bankruptcy. In the second case, the bank is trying to make essentially the basic function of which is to grant credit. If you cannot meet the needs of its customers for money, then not only the bank lacks revenue, but concern the whole market for the state of liquidity, to behold with formerly terrible cost. From the above we can observe that BOCY is more stable than CYPB and a little bit higher in liquidity risk. Also, the above figure shows stable moving across the years for both banks but from the above we can classify the banks to the first case from what has been happening in our economy during the last year and from what the media inform us.

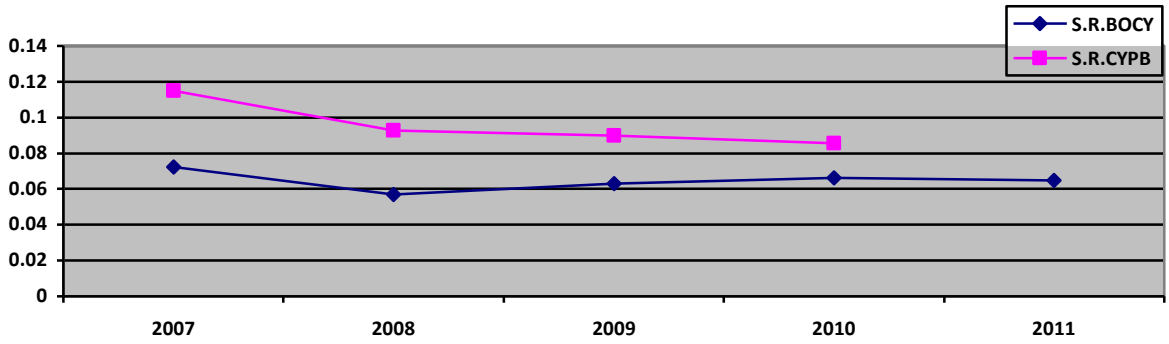

Figure 27: COMPARE SOLVENCY RISK

According to Golin (2001) acceptable solvency ratios will differ from business to business, but as a common rule of thumb, a solvency ratio of greater than 20% is considered financially healthy. Commonly speaking, the lower a company's solvency ratio, the greater the probability that the company will default on its debt obligations. From the above none of the two banks can be considered as financially healthy and also the BOCY has lower solvency risk than CYPB.

ESTIMATION OF Z-SCORE

The result is one nice, neat number that contains a lot of forecasting power. Z-score was between 80% and 90% accurate in predicting future bankruptcies. In general, the lower a company's Z-score, the higher the chance of bankruptcy. The rule of thumb is that for a manufacturing company, a Z-score above 3.0 indicates financial soundness, but a score below 1.8 suggests a high likelihood of bankruptcy. The formula that it been used it had been referent to the chapter 2.

TABLE 14: Z-SCORE

	2011	**2010**	**2009**
Z-SCORE BOCY	-0.09	27.07	30.57
Z-SCORE CYPB	52488.92	27075939.97	45215763.85
BOCY			
CYPB			

As it had been shown from the above for 2011 BOCY is in a distress zone and CYPB in a safe zone. For 2009 both banks were in a safe zone so no one would be fallen for the next two years. The 2010 BOCY was in a grey zone which means that something went wrong. Keep in mind, just as a firm carries a Z-score under 1.23 that it does not mean bankruptcy is an unavoidable end. The answer is that the recessions where are a usual part of the corporation cycle, but the government's fiscal and monetary policies often play key roles in making sure recessions do not go on for long. If the z-score is positive, it means that the current price of the security is above its mean. Correspondingly, if the z-score is negative, the current price of the security is below its mean. These policies involve increasing or decreasing government spending on entitlement programs and public work projects that create jobs, and they may involve changing bank reserve requirements, the interest rate at which the Federal Reserve lends money to banks, or the purchase or sale of Treasury securities. In case of this paper it is openly that BOCY needs immediately someone to borrow money from or otherwise it will go bankrupt.

CHAPTER 5

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS

From the results, firstly for the current ratio: the higher the current ratio, the more able the company is of paying its obligations. A ratio under 1 suggests that the company would be unable to pay off its obligations if they came due at that point. While this shows the company is not in a good financial health, it does not necessarily mean that it will go bankrupt - as there are many ways to access financing - but it is definitely not a good sign. In this case of the Bank of Cyprus the current ratio is 1for all the years of the examined period. If the ratio has a price greater than 1 it means that the bank has more current assets than the current claims against them.

The net working capital is the measure of bank potential reservoir of funds. For the bank of Cyprus the ratio has the price of 1 along the examination period. To be 1 we understand that the current assets are equal to current liabilities.

The acid test or quick ratio for the years of this period we observed has a steady trend from 2004 to 2011 with no big chances.

Fourthly, the debt equity ratio represents the lender's input for each euro of the owner's input. It is obvious that 2004 to 2011 it characterized from a big increase. For the 2004 the price was 16.63 and the final year 2011 it was 21.75.

BOCY had good liquidity ratios during years 2004 and 2010. 2004 it had less liquidity ratios than the others and that should give more concern about these types of fluctuations in ratios.

BOCY had fair leverage ratios in where it uses the debt most to increase revenue rather than the equity. It may increase the risk of the bank. So, to minimize the risk I think BOCY should finance more equity

From year 2008 to 2010 there was a lower growth in 2009 compare to 2008 and 2010. It indicates that BOCY has no consistency in growth over years. BOCY should ensure a better growth over the years to reach a stronger position.

The proprietary ratio has negatives prices for the years so there is borrowing for purchasing of assets. Also, as we go on from 2004 to 2011 the numbers increase negatively. So, over the years the borrowing for purchasing of assets was more from year to year.

The next ratio is the gross profit ratio that it has dramatically decreased from 2007 to 2011. A higher ratio indicates efficiency in production of the unit that can be characterised only in 2007. From 2007 to 2011 is decreasing to -0.89 in the final year.

Moving on, the next ratio is the operating profit ratio whose higher ratio indicates operational efficiency. This case exists but not for 2011 when numbers were quite different from the rest.

The next ratio that is included to the ratio analysis is the net profit ratio. Net profit ratio measures overall profitability. Here, 2011 is very different from the other years. Especially, 2011 was not a profitable year for the bank of Cyprus, even more the number is negative!

The stock/inventory turnover ratio characterises the efficiency of the bank in selling its products. This study apply to the formula the number of months by times 12. So the ratio indicates the number of times the inventory rotated during the period of months. In our case it is characterised by an increase, by that we understand that the inventory management was very good and over the years had increases.

The debtor's turnover ratio has decreased for the period meaning that the average of debtors was being smaller as the years passed, as well as the sales.

Next we calculated the asset turnover ratio. It is steady in comparison with the above ratios.

The fixed asset turnover ratio and the current asset turnover ratio are characterised with the same comment as the asset turnover ratio.

Creditor's turnover ratio determinates the creditor payment period.

Return on assets ratio had fluctuation over the years since 2010. In 2011 strongly decreased and there were no profits but losses.

The return on capital employed can be characterised as the above, return on assets ratio, because in 2011 we had losses than profit as the previous years.

Return on equity capital known as ROE, in 2011 had the biggest decreases and the reason was the losses of the year instead of the profit of the past years.

Earnings per share or else EPS are negative for the year 2011 because of losses. Generally, for the period there was a decrease in ratio as the years passed.

To examine the number of times the earning per share is covered by its market price we used the price earnings ratio. We have data available only for the years 2011 and 2007. Comparing those two years there is a huge difference which is characterised by a decrease from 2007 to 2011. So in 2011 the earning per share was not covered by its market price.

Last but not least we had calculated the debt service coverage ratio. It been concluded that the ability of the bank to meet its liabilities by way of payments of term loans and interest was decreased.

This study had realised from the above that things go worse as the years pass with the worst year being 2011 for the examinaned period.

Key Indicators Summary

The main financial state indicator values and BOCY's activity results are classified by qualitative assessment according to the results of the analysis for the last 8 years and are given below.

One can point out the following of BOCY's financial rates with values:

- low return on equity (-87.93% per annum)
- return on total assets made during the year 2011 -3.68% per annum

One can point the following not acceptable financial rates:

- the debt ratio (21.75) does not correspond to the norm as a result of a balance of sources of the company's activity financing (the liabilities equalled 34.078.0, the equity 1.566.9)
- income from financial and operational activities (comprehensive income) made EUR -1.377.8 million euro for the year 2011

There is one rate with a value fund during the analysis – the decrease in equity, for the period analysed (from 2004 to, 2011) as well as the decrease in total assets.

One can highlight the following values of BOCY's financial rates with negative values:

- a quick ratio made 0.08 (while the acceptable value makes 1)

Financial rates with critical values:

- the current ratio (1.07) is significantly lower than the standard value (2)
- no working capital (current liabilities exceed current assets)

CONCLUSION

In the new competitive business era, private banking sector is getting more competitive in Cyprus. In this sector the most used financial statements are the balance sheet and profit and loss account. The balance sheet shows the financial position and profit and loss account show the net profit or net loss of a bank. Ratio Analysis deals with these statements. It was a great opportunity to experience and gather knowledge concerning the type of banking operations. My faculty supervisor helped me to choose the topic- "Ratio Analysis of Bank of Cyprus Public Company Limited". This financial report is based on financial statements of 2004, 2005, 2006, 2007, 2008, 2009, 2010 and 2011 of Bank of Cyprus Public Company Limited. Private commercial banks are playing a vital role in the development of our economy. Government and Cyprus Bank also play a crucial role in the banking sector by regulating the overall banking systems and setting rules and regulations in the activities of commercial banks. In recent years of banking sector, BOCY has shown better performance compared with other generation banking.

Ratio analysis is the most popular trend to evaluate a bank's performance over years or with other companies in an industry. In this report it had to study BOCY's financial statements for the last eight years. Then analysis and interpretation of these financial statements through ratio analysis has now become an important technique for performance appraisal that investors, financial experts, management executives and the bankers always rely on these ratios to make important decisions. The management team of any bank, investor and the government agencies are always concerned about liquidity ratios and adequacy ratios of a bank which interpret the efficiency of a bank.

This dissertation has investigated the financial position of BOCY from 2004 to 2011 using the ratio analysis. The purpose of the current study was to distinguish the bank correctly by analyzing its financial statements over years. One of the most significant findings to emerge from this study is that the bank of BOCY was doing well over the years except the last year 2011. The reason of this down drop is the exposure of BOCY to the Greek bonds. The findings of this study suggest that the bank needs to finance more equity and should ensure a better growth over the years to reach a stronger position. In a comparison of the Bank of Cyprus Public Company with Marfin Laiki Popular Bank it is shown that according to a classification that Golin says (2001), ROA banks with less than 0.5% are considered weak, with ROA 0,5% -1,0% moderate, 1.0% -2.0% and well above the 2.0 % very good. However, if the ROA be 2.5% and more is characterized as exceeding. In our case BOCY has weak ROA for 2011, moderate for 2009 to 2010 and for the rest year 2008-2007 was positive. On the other hand PB had very good ROA for 2010 and for the period 2009 to 2007 it had an exceeding ROA. The analysis of the banks, has found that most of the assets mentioned in efficiency use net profit after tax, but some use their profits before taxes, on the premise that the performance of the assets should not be affected by the amount of taxes. ROE is the indicator on how many interested shareholders are, since they want to see the return on capital invested. According to Golin (2001)'' liquidity is one of the most important factors associated with the operation of commercial banks, as its absence leads to a chain reaction leading to bankruptcy. If you cannot meet the needs of its customers for money, then not only lacks revenue, but concern the whole market for the state of liquidity, to behold with formerly terrible cost. From the findings we can observe that BOCY is more stable than CYPB and a little bit higher in liquidity risk. Also, trends for both are stable moving across the years for both banks but from the above we can classify that the banks do badly in recent years from what we know from our economy and from what the media inform us. Referring to Golin (2001) acceptable solvency ratios will differ from business to business, but as a common rule of thumb, a solvency ratio of greater than 20% is considered financially healthy. Commonly speaking, the lower a company's solvency ratio, the greater the probability that the company will default on its debt obligations. From the findings none of two banks can be considered as financially healthy also the BOCY has lower solvency risk than CYPB.

The results for the Bank of Cyprus Public Company show that the bank- level not only significantly affect the likelihood of bank failure, but also explain a high proportion of the likelihood of failure for failed banks. I found district differences when I analyze the giving out of the estimated ratios of failure and specifically the year of 2011 was the worst year of the period. The results for BOCY show that in the crisis countries there is little overlap in the distribution of propensity scores between failed and non- failed institutions. This result suggests that systemic shocks like macroeconomic and liquidity shocks mainly destabilized and put in distress the weakest banks, in terms of their basics ex ante. The results for BOCY, however, show a significant overlap in the distribution of propensity scores between failed and non- failed banks in the crisis countries, which suggests that a fraction of relatively non-weak banks ex ante may have been forced to fail in the context of unexpected aggregate shocks to the system. When this paper takes into account, through a survival time analysis, the effect of banking system over time of the crisis period, it found that the failure threshold of this group of relatively non-weak banks ex ante was shifting over the period, which explains the quality difference between failed and non- failed banks in Cyprus. As it has been shown from the results for 2011 BOCY is in distress zone and CYPB in safe zone. For 2009 both banks were in safe zone so no one would be fallen for the next two years. The 2010 BOCY was in grey zone which means that something goes wrong. Keep in mind, just as a firm carries a Z-score under 1.23 this does not mean bankruptcy is an unavoidable end. The answer is the recessions where are a usual part of the corporation cycle, but government's fiscal and monetary policies often play key roles in making sure recessions do not go on for long. These policies involve increasing or decreasing government spending on entitlement programs and public works projects that create jobs, and they may involve changing bank reserve requirements, the interest rate at which the Federal Reserve lends money to banks, or the purchase or sale of Treasury securities. In our case is openly that BOCY needs immediately someone to borrow money from it otherwise it will go bankrupt. Last from the above, it appears that the company is in a dire economic situation, which forces it to make a generous increase in capital and find ways to address its financial problems.

The current investigation was limited by the year 2012 because the data was available until 2011. A further study could assess the year 2012 and to add more ratios in the analysis and why not compare that with other banks. There is, therefore, a definite need for Cyprus

economy to set again the rules of the economic system because the effects of the financial crisis are obviously arising as it has been shown from the analysis of the bank of Cyprus.

From the above, it appears that the company is in a dire economic situation, which forces it to make a generous increase in capital and find ways to address its financial problems. It was a great pleasure for me to do my thesis for a reputed organization like BOCY. Overall, the bank must make a positive attempt to be more outward looking in their goals and aware of what is happening. Hopping, in spite of all my restrictions the experience of sharing work in such case will help me a lot in my future professional life. Wish continuous success and a healthy business portfolio for the Bank of Cyprus public company.

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APPENDICES

Current Ratio	Current Assets / Current Liabilities
Quick Ratio	Total Quick Assets/ Total Current Liabilities
Quick Assets	Total Current Assets – Inventory
Long term Debt to Equity Ratio	Long term Debt / Equity
Total Debt to Equity Ratio	Total Debt / Equity
Total Debt to Total Asset Ratio	Total Debt / Total Asset
Total Equity to Total Asset Ratio	Total Equity / Total Asset
Assets Turnover	Net interest Income / Total Assets
Fixed Asset Turnover	Net interest Income / Fixed Assets
Current Assets Turnover	Net interest Income / Current Assets
Price Earnings Ratio	Stock Price per Share / Earnings per Share (EPS)
Capital Adequacy Ratio	Capital Base (Tier I + Tier II) / Risk-weighted Assets
Core Capital Ratio	Core Capital (Tier- I) / Risk-weighted Assets
Supplementary Capital Ratio	Supplementary Capital (Tier- II) / Risk-weighted Assets
Loan to Deposit Ratio	Total Loans/Total Deposits

Rate of Return on Loans	Net Interest Income / Total Loans
Net Profit Margin	Net Profit after Taxation / Net interest Income
Net noninterest margin	Net noninterest income / total assets
Net banking operating margin	(Total operating revenues – Total operating expenses) / Total assets

Return on Equity = Net Profit after Taxation / Equity

Breakdown analysis of ROE

In this analysis the return on equity of bank is analyzed step by step in order to find the same measure in ROE.

First step is to find the net profit margin which is calculated as:

Net income / operating income=net income / (net interest income + net noninterest income) = net income / (net interest income + (total noninterest expenses-total noninterest operating income))

Second step is to find asset utilisation which is calculated as:

Operating income / total assets= (net interest income + net noninterest income)/total assets= (net interest income+ (total noninterest expenses – total noninterest operating income)) / total assets

Third step is to find equity multiplier which is calculated as:

Total assets / equity

The result of ROE is by multiplying all the steps together.

Return on Assets = Net Profit after Taxation / Total Assets

Breakdown analysis of ROA

In this analysis the return on assets is analyzed step by step for bank for all the years.

The procedure is measured as follows:

(Net interest margin + net noninterest margin) – ROA

The model of Z-score is defined by the following function:

$Z = K1CH1 + K2CH2 + ... + K\nu\ X\nu$

Where in:

Z is the general index (score), K1 .. K2 ,Kν is the coefficient of variation

X1 and X2 ... Xv are independent variables that express markers of businesses and are calculated as follows:

X 1 = Working Capital / Total Assets

X 2 = Retained Earnings / Total Assets.

X 3 = Earnings before interest and taxes / Total Assets.

X 4 = Market Value of Equity / Book value of total obligations.

X 5 = Sales / Total Assets.

Depending on the type of business have 3 different versions of model:

A) for industrial firms which are publicly traded apply the following scenario:

Z = 1.2 X1+1.4 X2+ 3.3 X3+0.6 X4+ X5 0.6

With the critical values of Z defined from 1.8 to 3

B) for industrial companies which are not listed on stock exchange applies the following: Z = 0.717 X1 + 0.847 X2 + 3.107 X3+ 0.420X4+ 0.998X5 With the critical values of Z from 1.23 down to 2.9
C) for all other companies shall apply: Z = 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4 With critical values from 1.1 to 2.6