The Effect of the Pricing Policy of the Cypriot Banks Upon Accession to the Euro Area as at 31/12/2007

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The Effect of the Pricing Policy of the Cypriot Banks Upon Accession to the Euro Area as at 31/12/2007

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Declaration

I hereby declare that this research project has been conducted by myself. Except where reference is made in the text of the research project, this research project contains no material published elsewhere or extracted in whole or in part from a research project by which I have qualified for or been awarded another degree or diploma.

No other person's work has been used without due acknowledgement in the main text of the research project. This work is a record written by myself. This research project has not been submitted for the award of any degree or diploma in the any other tertiary institution.

Some of the results obtained in this research project have been presented as follows: meeting, report content and newspaper article publication.

Marios Soupashis

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Abstract

Cyprus' accession into the Eurozone has been a cornerstone on the modern history of the island. The research project is concentrating on the effect that Cyprus' participation in the Euro Area will have on the banking and financial institutions. The new Euro Area environment is characterized by "price stability" and that is achieved through an interest rate mechanism set by the European Central Bank. The interest rate levels however, are not disbursed uniformly within each member state. It was identified quite early in the research project that a number of factors are affecting the depositors and borrowers characteristics. Factors such as risk exposure, disposable income, alternative financing sources, average firm size, banking market concentration, asset and liability structure differ from one member state to another.

For a banking institution, these particular factors, are enough to deviate from the interest rate benchmark that the European Central Bank is setting, in order to operate efficiently and profitable within each member state's economic characteristics. The research project was concentrated on the level of the interest rates that exist between the different deposit and loan type products in the Cypriot economy and in the Euro Area. Involving case description general analytic strategies, results were produced from the description of the Euro Area and Cypriot economies, the Euro Area MFIs against Cypriot banks and also at the end the Creek banks against the Cypriot banks.

It was proved that during this transition period, there exists disequilibrium on the level of the interest rates between the Cypriot banks, the Euro Area MFIs and the Greek banks. It is also proved that these differences on the level of the interest rates are in favour of the Cypriot banks.

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Summary

In this project study, the pricing factor of the Cypriot Banks was assessed upon Cyprus' accession to the Euro Area. The research approach used is case study and most of the research data was obtained from the European Central Bank (ECB), the Cyprus Central Bank (CCB), the European Statistical Service and the Statistical Service of Cyprus.

Specifically, the most vital institutional sectors of the Euro Area banking sector (the household, the non-financial corporations and the governments sectors) are compared and examined. The examination is considering the performance of the Cypriot banking sector in relevance to the European monetary financial institutions (MFIs). Essentially the level of the deposit and loans, the relevant interest rates, the spreads (the net interest margins) and the return of each sector in respect to each banking sector were examined.

Before arriving in any findings and conclusions, the project study concentrated in the assessment and evaluation of two key areas: a) the Cypriot economy and b) the Cypriot banking sector. The evaluation and examination of the latter was compared to the Euro Area economy and the Euro Area banking structure. The research on the subjects of the economy and the banking structures was deemed necessary in order to understand the factors that are shaping the operational and the structural environment of the banking sectors respectively. These factors are

shaping up the main characteristics of each banking sector that eventually set the level of the interest rates on deposits and loans.

Beyond the primary goal of the research study and in search of identifying the factors that are associated with the pricing factor, a number of conclusions and findings are outlined in Chapter 7. These conclusions and findings are also associated with the analysis performed in the subjects of the economy and the banking structures.

Even though right before the Cyprus's accession to the Euro Area the Cypriot banks had to proceed with a harsh adjustment of their loan books, based on a decision from the monetary committee of the Cyprus Central Bank taken at 21/12/07, the pricing factor of the Cypriot banks proved to be in an excellent condition compared to their Euro Area counterparts, in the examination of the mentioned institutional sectors. While the loan to deposit mix of the Cypriot banks has obvious differences to the Euro Area MFIS, the actual spread (the net interest margin) which they managed to achieve, was enough as to outperform the Euro Area MFIs, in all the institutional sectors examined. Only in the instance of the consumer loans, the Euro Area MFIs are over performing the Cypriot banks.

Overall, the pricing factor of the Cypriot banks compares favourably to the Euro Area MFIs. The Cyprus' accession to the Euro Area did not harm the interest rate spreads of the Cypriot banks, or hinder their operations before or at the transition to the new economic environment.   On the contrary, as at 31/12/07, the Cypriot banking sector appears to compare favourably in terms of the net return of each institutional that is examined.

Table of Abbreviations

PPS	Purchasing Power Standard
CPI	Consumer Price Index
NFC	Non Financial Corporations
NIM	Net Interest Margin
MFIs	Monetary Financial Institutions
ECB	European Central Bank
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
AIRD	Average Interest Rate on Deposits
M0	measure of money supply
M1	measure of money supply
M2	measure of money supply
M3	measure of money supply
TFP	Total Factor Productivity
NCBs	National Central Banks
ECSB	Euro System Central Bank
Eurostat	European Statistical Service
EMS	European Monetary System
EU	Euro Area
EMU	European Monetary Union
ERM	Exchange Rate Mechanism
NMS	New Member States
OCA	Optimum Currency Area

£CyP	Cyprus Pound
UK	United Kingdom
CCB	Cyprus Central Bank
SSM	Soft Systems Methodology
BERA	British Ethical Research Association
PPP	Purchasing Power Parity
VAT	Verified Added Tax
£CyP/€	Cyprus Pound to Euro
Euribor	the rate at which commercial banks lend money to each other
USA	United States of America
Co-ops	Cooperative Societies
CY	Cyprus
HHI	Herfindahl-Hirschman Index
CPC	Cyprus Commission for the Protection of Competition
WACC	Weighted Cost of Capital
Repo	Repurchase Agreement
W.A.	Weighted Average
APRC	Annual Percentage Rate of Charge
MLF	Marginal Lending Facility
BP	Basis Points
Δbp	Difference in basis points
OECD	Organisation for Economic Co-operation and Development
TCC	Total Consumer Credit
TL	Total Loans

AAR   Annual Agreed Rate

Spread   The difference of the deposit and lending rate

DProf   Doctor in Professional Studies

RAL   Recognition and Accreditation of Learning

ELT   Experiential Theory Learning

CHAPTER 1

TERMS OF REFERENCE / AIMS AND OBJECTIVES

OF THE PROJECT ACTIVITY

1.1 Introduction:

The aim of my project and my other activities at a personal and professional level, have been to assess the Cyprus economy accession to the Euro Area (the term "Euro Area" refers to the area comprising those European Union Member States that have adopted the euro currency) in order to determine the effects of the pricing factor that the local banking system is faced with. My research has focused on the loans and deposits of the banking sectors in the Euro Area and in Cyprus, and their current trends and characteristics. Specifically, crucial institutional sectors of the Cypriot and Euro Area economy, such as the household, non-financial corporations (NFC) and government sectors were compared between the Cypriot banks and the Euro Area MFIs. These sectors are compared in relevance to their spreads (the net interest margin -NIM) and their net return for the Euro Area MFIs and the Cypriot banks.

The research project consists and relies on financial matters regarding the transition to the Euro Area and the effect on the pricing factor of the banking sector. Moreover, the research project is examining how a local banking institution can adopt its strategy relevant to its transition in the economic environment. The importance of the research project is that the knowledge derived will eventually incorporated into a bank's strategy.

1.2 Hypothesis and Key Questions:

The hypothesis of my research is that by accessing the Euro Area, Cypriot Banks have to evolve in the new environment and keep their operations expanding, sustainable, profitable and compete on an equal basis with their rival counterparts, the Euro Area MFIs.

While the difficulties could be expressed in terms of the short life of the Euro Area as a single monetary system, the obvious differences between the policy makers, regulatory and monetary authorities and the less obvious differences in technology, supervision and competition, are the main concerns of the Euro Area regulators and MFIs.

My principle is that there is some know how of foreign and cross border operations for the Cypriot Banks, since the two largest banking institutions that hold more than 50,00% of the island's banking sector, are operating abroad for the last 12 years now, but there is a lot of room for bank management, in terms of the customer's loans and deposits, within the single monetary system. The customer's loans and deposits constitute the pricing factor of a banking institution and therefore the transfer from one economic system to the other has an immediate impact for the banking sector. It has also a direct impact on consumers / clients since the pricing factor issue affects directly the level of deposit and lending rates. Moreover, the research project is a point of reference for other banking sectors, upon their countries' future accession to the Euro Area.

In its entirety, the project deals with the difference in the spreads for the various types of loans and deposits, which exist among Cypriot banks and Euro Area MFIs.

1.3 Research Questions Will Address the Following Issues:

Apart from the hypothesis and key questions as outlined in the previous section, the research project is addressing a certain set of questions. These questions are essential in identifying the factors that are shaping the pricing policy of banking institutions and have to be assessed and evaluated before proceeding with the actual investigation of the pricing factor. The research questions are as follows:

- What is the historic and current economic evaluation of the Cypriot and Euro Area economy?

- What were the main characteristics of the Cypriot Banking sector as at 31/12/07 (the last date of accession to the Euro Area)?

- What were the main characteristics of the Euro Area Banking sector as at 31/12/07?

- How the local Banking system has performed and is performing, in terms of pricing, in the local economy?

- How the Euro Area Banking system has performed and is performing in the Euro Area economy?

- What are the interest rates spreads between the loans and deposits in Cyprus and in the Euro Area?

- Can anything be done to gain from the accession to the Euro Area?

My project will try to investigate the above hypothesis and address to the highest degree the above research questions.

The addressed issues required the project study to primarily investigate into the areas of the economies and the banking structures of the Euro Area and Cyprus, before looking into the specific subject of the pricing factor.

The aim of the project is to provide a complete overview of the major differences that exist between the pricing factor of the Cypriot banks and the Euro Area MFIs.

In order to understand the factors that are shaping up the pricing policy of the Cypriot banks and the Euro Area MFIs, the project study is identifying and assessing the economies (the economic environment of operation) for the two banking sectors. The questions raised above that concern the operational economic environment of the Cypriot banks and the Euro Area MFIs are examined and evaluated in Chapter 4.

Moreover, there are factors that are shaping the pricing policy that are associated with the banking structures of the two sectors also. Therefore before proceeding right to the assessment of the pricing policy for the Cypriot banks, an evaluation and understanding of the different factors that are shaping up the operational level of the Cypriot banks has to be

assessed. Issues that concern the banking structures of the two banking sectors are evaluated in Chapter 5.

Only after the identification and evaluation of the issues raised in Chapters 4 and 5, the main topic of the research project is evaluated in Chapter 6. In that Chapter, the level of the loans and deposits and their associated rates are identified, examined and compared to the Euro Area MFIs.

In Chapter 7, an overview of the findings and conclusions is presented. Moreover, a series of recommendations is outlined based not only in the pricing policy but also on the total work performed in the research study.

1.4 Professional Significance of the Project Study:

The professional significance of the project study and the work produced is solely owing to Cyprus' accession to the Euro Area and the concerns that aroused not only in the broad public opinion, but to the local banking community as well. Public opinion is more concerned in issues of everyday life like inflation and unemployment levels, wage increases, the unknown effects on the new structured fiscal policy – issues that were common in pre accession countries like Cyprus. From my point of view however, as a banking employee, the concerns regarding the Euro Area are largely attributed to the cost of money and especially the level of interest rates that will be regulated from the European Central Bank and not from the Cyprus Central Bank anymore.

Moreover, the Cypriot banking sector has experienced mergers, acquisitions, friendly and failed hostile takeovers in the very short period of the last 3 years. Existence issues of the local banking sector are also considered when someone takes into account their negligence presence in the vast single monetary area. Furthermore and as derived from the literature review in Chapter 2, special issues (not only for the case of Cyprus but also for all the Euro Area member states) are raised in terms of policy makers, regulation and monetary authorities.

Since these issues and concerns are more related to fiscal and internal politics and are subject to a hopeful complete monetary integration within the depth of time, the focus of my attention will be on the differences that exist on the Euro Area MFIs and Cypriot banks loans and deposits. Although topics like technology, cost and operational efficiency are under serious consideration, issues like profitability, competitiveness and income growth are directly related to the level of interest rates and to the sustainability of market shares.

Therefore the questions that are raised in this transitional phase will become the focus of medium to long term strategy for the banking sector in Cyprus and hopefully for my employers as well.

Taking into account that my audience are the banking institutions, and more precisely the executive officers that are in key positions to take decisions that directly affect the future strategy of these organisations, the

evidence of the project study will be an executive business report. The report will primarily consist of the conclusions, findings and the recommendations that surfaced from the project study not only in the matters of the pricing factor upon Cyprus' accession to the Euro Area, but on in its entirety.

The next Chapter is focused on the literature review, of the research issues that were addressed above. Except for the Cyprus economy and the banking sectors of the Euro Area and Cyprus, the next Chapter is examining the Euro Area mechanism. The understanding and comprehension of the Euro Area mechanism will give a clear idea to the reader of the requirements and conditions not only for joining the Euro Area, but also for operating in the Euro Area. Last but not least, the next Chapter is addressing operational issues of banking operation in the Euro Area. A number of research papers is associated with the interest rate disbursement and the homogeneous operation of banking institutions within the Euro Area. Overall, the next Chapter is actually filtering the vast material associated with the Euro Area and is focusing on the factors that are shaping the pricing policy of a banking institution.

CHAPTER 2

LITERATURE REVIEW

2.1 Research Statement and Questions:

The aims of the literature review are to acquire an in depth knowledge and an insight of the subject area, to develop an understanding of the criticisms made and to develop skills and abilities expected from an insider researcher. Overall, the literature review will help me to develop the ability to read analytically and synthesize information and understanding with the aim to use this new knowledge in my research project. The research statement and questions for my project study are outlined below:

Research Statement: To evaluate the pricing factor of the local Banking system towards the Cyprus' economy accession to the Euro Area economy.

Research Questions:

In order to evaluate the pricing factor of the Cypriot banking sector and compare it to the Euro Area banking sector, and at what extent the current economic trends are determining up the future, the following questions will be examined:

- What is the historic and current economic evaluation of the Cypriot and Eurozone economy? This will be discussed in Chapter 4.

- What are the major characteristics of the Eurozone and Cypriot Banking Industry? What was the status of deposits and loans as at 31/12/07? This will be discussed in Chapter 5.

- How the local Banking system has performed and is performing, in terms of pricing, in the local economy? This will be discussed in Chapter 6.

The evaluation of the Cypriot economy will most probably take me to the point where I will have to compare and assess it the Euro Area economy, and identify its special characteristics that will allow it to compete in the new economic environment.

Over the last years the Cypriot economy has been slowing down, regardless of the fact that it is still on a positive trend in regards to real GDP growth. Furthermore, upon joining the Euro Area it will have to adapt to the new economic environment. The major activities on the island are financial and banking operations that are currently facing increased competition from foreign banks.

The problem at hand is that there is no experience or practical know how of operating in the Euro Area environment and above that, the local banking institutions are faced with challenges that concern their existence. Nevertheless, the local banks have operations in the Greek market (and are rapidly expanding in the South East Europe and Russia) and are posting good results, but the local environment is just transforming under

the Euro Area umbrella. Currently the local banking institutions are posting profits due to high net interest margins (NIM) primarily from their local and Greek operations. However, this environment is becoming highly competitive and their NIM is showing signs of shrinkage. Since the major advantage of a banking institution, for attracting customers, is the pricing strategy, I will research the specific factor within the Euro Area economy, in respect to the Cypriot bank's case.

As outlined in my research statement, the aim of this project is to investigate the pricing factor of the Cypriot banking sector and compare it with the Euro Area monetary financial institution's, MFIs, towards their accession to the single monetary union.

As the reader will discover, the literature review conducted on the matter, did not actually involve specific epistemological studies in the matter of the pricing factor. Furthermore, the literature review was more preoccupied with the operation of a single currency economy and the irregularities than comprise it, the different level of the interest rates and the legal, procedural and operational matters of the MFIs that are active in different member states within the Euro Area.

Since the pricing factor involves the difference between the level of interest rates on customer's loans and deposits, the study identifies these differences for both economies. In order to comprehend in the best possible way the level of these interest rates and their dispersion within

the various member states within the single monetary union, a more detailed look was taken into the actual economies and their main characteristics. Moreover, in order to acquire as much knowledge as possible about the mechanism of the banking sector in the Euro Area and study the relevant literature conducted on the subject, a thorough investigation is needed and is conducted in this Chapter. The understanding of the previous epistemological studies in the matters of the Euro Area economies and the set of rules that characterised it can prove beneficial if one takes into account the fact the criticisms from a local perspective, about the single monetary union. Lastly, the review of all the relevant subjects can be analytically synthesised to provide new knowledge and a new perspective regarding the subject of the research project. As an insider researcher, this will enable me to develop skills and abilities, to correctly and independently assess the pricing factor of the Cypriot banking sector upon its accession to the Euro Area.

Using the above information and taking into account the interrelation and interaction of the economic factors in the banking operations in both areas, in order to facilitate my research statement within the aims, boundaries and objectives of my project, the literature was conducted and is presented in the areas of:

    1.   The Cyprus Economy.

    2.   The Eurosystem.

    2.1   The Eurosystem – Price Stability in the Euro Area.

2.2 The Cyprus Economy:

Studying the literature about the Cyprus economy, a number of working papers is devoted in the aftermath of the Turkish invasion era in 1974 and the irregularities that the de facto situation exists on the island.   After suffering a devastating war in 1974, which yielded a 40,00% loss of the most productive land and economic territory, 200,000 refugees were dislocated from the north to the south.   However, the economy managed to kick back and overcame economic issues that at the time were unthinkable to surpass.   According to Pashiardes (2000), the total cost to the economy after the Turkish invasion and up to 1999, accounted for £4,00 billion Cyprus Pounds (€6,80 billion) without taking into account the loss of use of the occupied land, but taking into account the higher cost of borrowing and the loss of capital throughout the period 1974-1999.   As a consequence and due to the "dead" period that followed the invasion, the latest study by Theophanous et al (2006) is concentrated on data starting

from 1980, which includes the changing pattern of growth and development over time with special emphasis on more recent years. Due to the evolution of the Cyprus economy, shifting from its heavy dependence in agriculture to services, Durlauf et al (2004) characterised it as one of the economic "miracles" of the 1960-2000 period.

Theophanous et al (2006, pp 21-22) demonstrate that whilst the 1980's were particularly robust, the growth pattern from the latter half of the 1990's onwards has been cumbersome in nature and increasingly more constrained, as it states:

> Prospects over the medium term are likely to remain relatively subdued in comparison with longer-term trends. A deteriorating regional geopolitical environment, a slowdown in tourist activity, continued restructuring of the economy and intensifying competition coupled with domestic problems including consequences of the collapse of the stock market in the period 2000-2002, will continue to constrain economic activity in general.

An analysis of the macroeconomic dimensions of the Cyprus economy, by Christofides et al (2006) state that the Cypriot economy is vulnerable to external shocks like the Gulf war, the tension in Lebanon, The European Economic Union agreement in 1987, having a direct impact on the Cypriot GDP. Moreover, for the Cyprus case, it is proved that the M2 money supply has an immediate and inverse impact on the average interest rate on deposits (AIRD) from commercial banks.

Money supply is divided into multiple categories - M0, M1, M2 and M3 - according to the type and size of account in which the instrument is kept

(Friedman, 1953). A detailed description of the money supply categories is included in the Annex section of the research project.

Taking my analysis one step further on the specific subject of the Cyprus economy macroeconomic model, Mitsis et al (2004) have broken down the Cyprus's economy GDP from an annual to quarterly basis for the period 1990-2001.

According to Mamouneas et al (2005, p 7), the productivity level of the Cyprus economy started to show a sign of deterioration in the 1980's where slowdown is recorded, however it is noted that:

> Producers of goods and services seem to start responding to the intense competition by finding ways to contain production costs. This has a positive impact on the overall productivity of the economy, which starts at almost zero TFP – Total Factor Productivity – growth rates in 1980 and reaches 2,00% by the period 2000-2002. Moreover, the observed improvement in productivity could also be attributed to active and continuous government efforts in improving the environment in which firms operate, through infra-structure projects and other incentives for adopting new technology.

Within the frames of the globalization of the economy and towards Cyprus accession to the Euro Area, it is vital for the Cypriot economy to maintain high productivity levels that will enable it to complete and cope to the tensed pressures of international competition. Although the productivity levels of the Cyprus economy are favourable compared to the Euro Area member countries the study notes that on certain sectors the rate of TFP

change is relatively low, producing disturbances if someone takes into account the increasing competition.

Towards the Cyprus accession to the European Union, Chasapis (2007) investigated the level of economic integration for Cyprus and the other new member states, not only between each other but also between the Euro Area member states. With respect to the financial convergence, the study examines the bond returns and the capitalization to GDP ratio. The results show that Cyprus does not show any degree of convergence when taking into account the capitalization of the GDP ratio. More precisely, the latter stands for all the new member states and the study found no convergence even with respect to the old member states.

Discussion on the Cyprus economy: The irregularities of the Cyprus economy are reviewed and taken into account. Although there are not too many references regarding the subject, it can be said that matters in the areas of productivity, the economic cost of the 1974 Turkish Invasion, the shift from agriculture to the services sector, the macroeconomic model, the vulnerability to external shocks and the level of convergence prior to accessing the Euro Area are covered satisfactorily. The review was essential to the study because Chapter 4 evaluates and compares the Euro Area and Cyprus economies. In Chapter 7 were conclusions and recommendations are derived from the project study, this evaluation takes into consideration the main characteristics and differences of the two economies.

2.3 The Eurosystem:

On the 1st of January 1999, eleven national central banks (which became 12 with the participation of Greece on the 1st of January 2001) transferred their monetary policy responsibility to the European Central Bank (ECB), (ECB, 2000). The event has been the end of a long and complex process of integration among European member states. The adoption of the euro currency was set by a number of specific legal and economic preconditions aimed at a stability oriented monetary union (ECB, 2006).

The term Eurosystem or Eurozone refers to the member states and their corresponding National Central Banks (NCBs) that have adopted the euro currency. The distinction between the member states that have adopted the euro currency (Eurosystem) is necessary between the other European member states that are still circulating their local currency.

The objectives of the European Union and consequently the Euro Area as it is derived from the Article 2 of the Treaty (1992) of establishing the Union (ECB, 1999, p 39) state that the 'primary objective of the ESCB shall be to maintain price stability' and that:

> Without prejudice to the objective of the price stability, the ESCB shall support the general economic policies in the Community with a view to contributing to the achievement of the objectives of the community, (Treaty on European Union, 1992).

The principle of free competition with an open market economy is the main pillar of the Euro system. In this environment, prices are set by the buyers and sellers without interference, misconception and coercion by third parties.

The level of prices is set by the law of supply and demand. Adam Smith, philosopher and inspirer of many Victorian economists, identified that the price of a good or service, is a medium of communication between the consumer and the producer, which in essence directs the producers to an efficient allocation of resources in the direction consumer needs and investor satisfaction. Free competition between producers and vendors ensures that prices tend to decrease and quality to increase (Sutherland, 1993).

Following the laissez-faire economic philosophy, and specifically the Austrian Theory developed by Ludwig von Mises, that is opposed to any government intervention, free market economics are meeting this requirement by accepting that government's role is to regulate against fraud between market participants. Further than maintaining Government's role clear of any unnecessary taxes and in my case, euro area member states, the primary goal is to maintain the free market system without interferences and imposing force (Ebeling, 1976).

The objectives of the European community refer to:

- High level of employment,

- Sustainable and non inflationary growth,

- A high degree of competitiveness, and

- Convergence of economic performance.

The Treaty thus establishes a clear hierarchy of objectives for the Eurosystem and assigns overriding importance to price stability, as the most important contribution that monetary policy can make to achieve a favourable economic environment and a high level of employment (ECB, 2006).

2.3.1 The Eurosystem – Price Stability:

The Governing Council of the ECB announced the following quantitative definition in 1998, (Palenzuela et al, 2003):

> Price stability shall be defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the Euro Area of below 2,00%. Price stability is to be maintained over the medium term.

In 2003, the Governing Council defined that the aim of its monetary policy strategy is to keep inflation rates around the 2,00% level over the medium term.

There are a number of reasons for announcing the qualitative definition of the above. Monetary policy as is outlined in the Treaty has to be transparent amongst member states and citizens of the Euro area. The

ECB is setting a benchmark in which it will be held accountable if any deviations occur, relatively to its monetary and economic policy and future intentions. Last but not least, the definition by itself is shaping up consumers and citizens future expectations on price developments enhancing the macroeconomic stability and prosperity of the Euro system (Herrero et al, 2001).

On the issue of the price stability and its objective, Herrero et al (2001) state that:

> The objective of price stability refers to the general level of prices in the economy and implies avoiding both prolonged inflation and deflation. There are several ways in which price stability contributes to achieving high levels of economic activity and employment.

Following the discussion above regarding the free market economy and the efficient allocation of resources, changes in prices are easier to identify from market participants (consumers, producers, financial intermediaries, policy makers, regulators). This high level of price information and its associated fluctuations can lead to enlighten consumer and investment decisions. Therefore resources are allocated efficiently and most importantly productively, causing positive repercussions to the economic system which at the end percolates to the welfare addition of households (ECB, 2004).

Furthermore, price stability eliminates the uncertainty and risks associated with inflationary economic environments. In the process of this project study, I have identified that inflationary environments within the Euro Area

and between member states, is a negative factor of setting a low rate for a housing loan. With inflation associated risks at minimum levels monetary financial institutions (MFIs) can condense their risk premium and subsequently distribute resources more efficiently, promoting to the economic welfare. The same rationale applies for firms and individuals also, since price stability ensures that resources will not be driven away from productive uses for inflation hedging purposes. A most common example of high inflationary economic environment is when firms tend to stockpile goods in order to retain their value compared to specific financial assets. However, stockpiling goods is not an efficient investment decision, and therefore hinders economic growth (ECB, 2004).

Inflation related issues are also twisting structured tax and welfare systems that are causing unwelcoming economic behaviour. These systems can not adopt in a quick and efficient manner through tax rates and security contributions compared to inflation rate fluctuations.

Conclusively and in addition to this sensitive part of the inflation issue, Herrero et al (2001, p 30) state that:

> Price stability eliminates the real costs entailed when inflation exacerbates the distortionary impact of tax and social security systems

Herrero et al (2001, p 32) also identified that instable economic systems, that are characterised by unstable inflation and deflation rates are less immune to social and political issues:

Typically, the weakest groups of society often suffer the most from inflation, as they have only limited possibilities for hedging against it. An environment of stable prices thus helps to maintain social cohesion and stability.

Preserving price stability in the economic system prevents social irregularities that are caused by the shift of wealth from creditors to debtors.

2.3.2 The Eurosystem – Harmonized Index of Consumer Prices (HICP):

Following the discussion from the previous section, the ECB needs a benchmark for evaluating the inflation changes. The HICP is an indicator for evaluating inflation. The index is harmonized and uniformed by all European Union member states. The HICP indicator consists of a wide variety of goods and services that are accordingly weighted against the consumer spending. It signifies the overall price changes within that basket of goods and services and is extracted from the European Statistical Service as right below:

Table 2.1 Weight Components of the HICP

Overall index	100
Goods prices	59,1
Unprocessed food	7,6
Processed food	11,7
Non-energy industrial goods	31,6
Energy	8,2
Services	40,9
Housing services	10,4
Transport	6,3
Communication	2,9
Recreation and personal services	14,9
Miscellaneous	6,4

Source: Eurostat, Applicable for 2003

The objective of price stability is to maintain, more or less, a 2,00% average inflation per year. The HICP indicator however, combines all the calculated inflation from Euro Area member states, therefore it takes into consideration the differences that exist between regions in the union, in order to avoid economic activity with low or even negative inflation rates in certain regions.

As Jose Manuel Gonzalez-Paramo stated on as speech on the 23rd of May 2005 (ECB, 2005):

> In principle, inflation differentials across regions are a normal feature of any monetary union. They are an integral part of the adjustment mechanism resulting from divergences in economic developments across the regions' economies

Monetary policy is influencing whole of the Euro Area and it really can not really change inflation differences that exist between different cities or regions. These Inflation differentials are identified as temporary aspects and are impermanent. However, if inflation differentials are prolonged, in relation to an incomplete convergence of regions and member states, this can lead to inflation abnormalities across regions. This can create inequalities that at the end are affecting negatively the efficient allocation of resources (Vermeleun et al, 2007). Regions that are operating on low or negative interest rate levels, have to adjust the wages and income spending and therefore delaying cuts in prices and that results in resource allocation inefficiencies.

In order to avoid not only the technical aspects but also the practical realities of the inflation differentials that exist amongst regions within the Euro Area as the real convergence is advancing, the ECB should aim to achieve high enough inflation levels that will not create inflexible economic environments in regions that are operating with low inflation rates. Duisenberg Willem, the ex president of the European Central Bank, has stated on a speech at the International monetary conference in Berlin in 2003 (ECB, 2003) that:

a rate of inflation below but close to 2,00% for the Euro Area also provides a sufficient margin in this respect.

2.3.3 The Eurosystem – The Mechanics of the ECB's Monetary Policy:

The banking system needs funds to cover demand for currency, to clear interbank balances and to satisfy minimum funding requirements set from the ECB. The ECB has the monopoly of issuing money ("base money") over the demand for funds caused by the banks. The monopoly factor allows the ECB to decide the interest rate level on its operations, therefore setting the cost of funds to the banking system. Banks convey the funding cost over to their consumers/clients (ECB, 2000).

Through this operation of maintaining certain interest levels, the ECB dictates the conditions of the money market. Alterations in the interest rates have an impact on the short term deposit and lending rates of consumers. Furthermore, they create future expectations regarding the level of the interest rates and subsequently the money market conditions, which are correspondingly affecting longer term interest rates. However, longer term maturities are associated with long term economic growth and inflation expectations. Therefore changes in the interest rates do not normally affect longer term interest rates, unless they are affecting the market expectations regarding longer term economic growth. Given the fact that interest rates can influence the financing conditions within the economy, and they have an impact on future market expectations,

monetary policy has a direct impact on real estate prices and stock market valuations (ECB, 2001).

Following the discussion on the interest rates and their impact on economic growth and future expectations, Trichet (ECB, 2005) has stated in his lecture in Singapore that the changes in interest rates and the related financial variables (real estate and stock prices) are affecting consumer behaviour. The fluctuation in the prices of financial variables are affecting consumer's savings and spending, therefore altering future expectations that are associated with investment decisions for households and firms. Higher interest rates are repulsive for households to acquire loans for their investment or consumption necessities. On the other hand, higher interest rates are very striking for making long term deposits and to save income. In addition, higher interest rates have an impact on the supply of credit, since borrowers are in a stiffer position to pay back their loan obligations. This fact affects bank's decisions of handing out more riskier loans (consumer credit and investment related loan products), therefore suspending investment plans and consumption.

Apparently interest rate fluctuations are not only affecting the financial variables and consumer behaviour but they are also affecting consumer consumer's appetite for consumption. In periods where financial variables prices rise, households wealth increases and that fact results in increased consumption. The opposite scenario applies when financial variables prices reduce. Another factor that is crucial to the aggregate demand

caused by the fluctuations of the asset prices is also the loan collateral requirements from lenders. In the cases where asset prices decrease the lenders consequently demand more collateral as the risk premium increases. Consequently, lenders are not willing to hand out loans affecting consumption negatively also.

Furthermore, the above are not the only factors that are interrelated and are influenced through inflation and interest rates. Exchange rates also affect prices, inflation, production and competition, ECB (2004, p 46) identified that

> …financial asset prices depend on many other factors in addition to monetary policy, and changes in the exchange rate are also often dominated by these factors.

Imported goods and product's prices are set through the exchange rates. In the case where the exchange rate depreciates the price of imports is likely to increase, therefore putting upward pressures on inflation. Furthermore, imports are also used for inputs into the production process, therefore higher prices are eventually percolated in the system. On the other hand however, expensive imports, also translates into more competitive domestic products making them more attractive in the international markets. Conclusively, exchange rate depreciation tends to increase inflationary pressures (Angeloni et al, 2003).

Proceeding with the discussion of inflation and prices, another factor that is essential to the monetary stability orientation of the ECB is also its

credibility. Price stability is maintained through monetary policy as a benchmark of setting interest rates that are influencing prices and future expectations. A firm environment of maintaining price stability influences wages and price-setting, without the unnecessary upward adjustments for fear of future higher inflationary pressures (ECB, 1999).

As it is outlined above, there are a number of different factors and mechanisms of different size and effect that are involved in the various stages in the process of setting a firm monetary policy. All these interrelated factors usually take time in respect to their real impact on price developments. The time lack associated with these factors is posing a serious delay in estimating price developments. The vast number of interrelated factors and the shocks that influence the mechanism of the monetary policy makes it in practice a rather slow decision making process. Take for example high commodity prices that have a short tem effect on inflation and prices, or developments in international fiscal policies that are affecting domestic demand. Furthermore, the exchange rates are affected by a number of factors that are out of the ECB's control, so in order to take a monetary policy decision all factors have to be accounted for, so as not to affect the long term price stability in a manner that will negatively influence future inflation expectations, consumer behaviour and investment decisions.

Since Central Banks are constantly involved with the complexity of the different factors that are influencing price stability, simple rules have been adopted as a guide to verify its actions.

A simple rule to follow is that inflation is considered a monetary phenomenon. This implies that the ECB is generally aware and alert of monetary developments that are influencing inflation trends. However, since the Euro area, is considered to be at its infant stage, and since it comprises of different member states that are economically converging not only to each other but to the Euro Area norm as well, the empirical methods of quantification of inflation related factors have proved more than challenging (Issing et al, 2001). Nevertheless, as time progresses and more information, research and data is available a more thorough comprehension of monetary transmission in the Euro Area has developed.

The process, or rather the mechanism, for the implementation of the monetary policy in the Euro Area from the ECB, as outlined in section 2.3 can be represented more clearly visually in a chart. The following Chart is extracted from the ECB for the purpose of this discussion and it outlines the monetary policy mechanism:

Graph 2.1 The ECB's Transmission Mechanism from Interest Rates to Prices
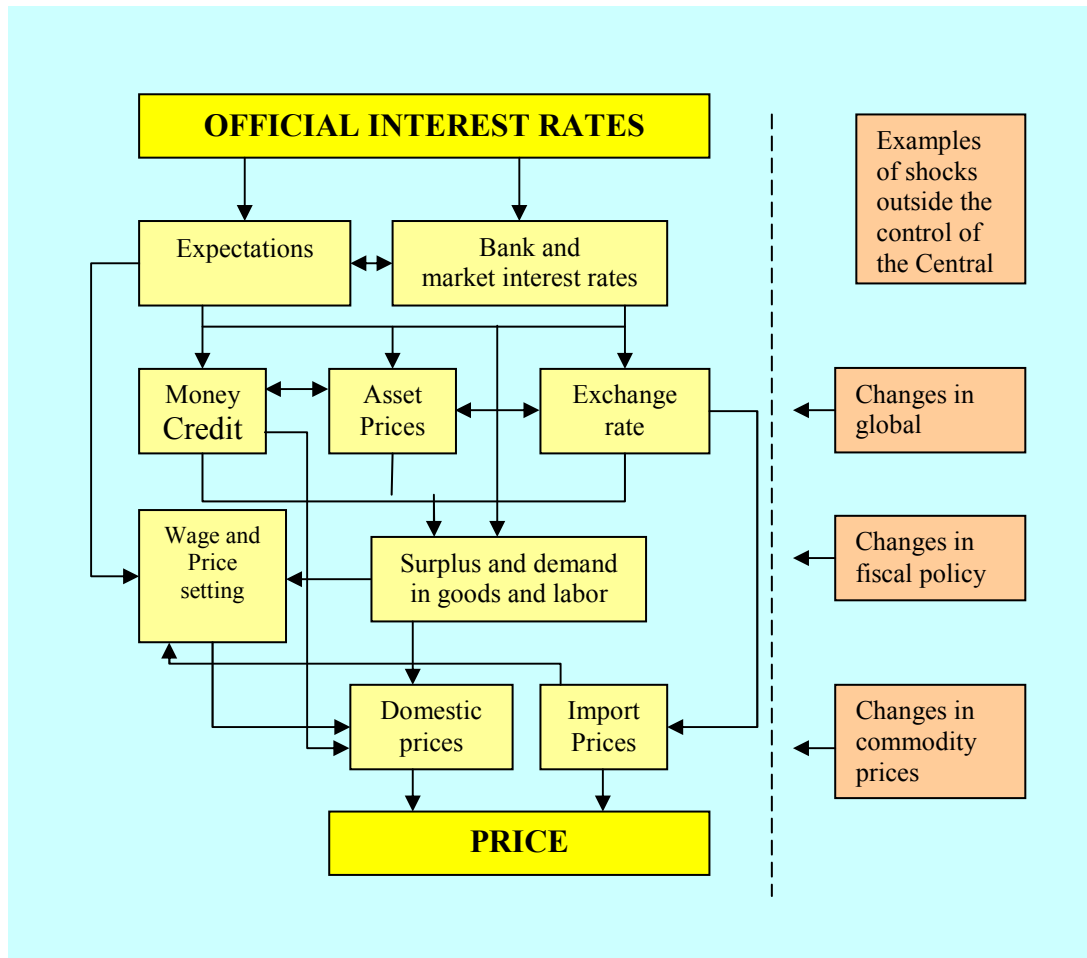
Source: European Central Bank, 1999

Discussion on monetary policy: This section examined the implementation of the monetary policy in the Euro Area. In order to assess the implementation and the effects that the monetary policy will have on the Cyprus economy, a thorough investigation of all the relevant matters took place. The main characteristic of the monetary policy conducted by the ECB is to maintain price stability. There are two issues that arise from this. First, what is the definition of price stability and second, at which level the ECB targets to maintain price stability.   Therefore, the HICP and its components are pointed out along with the fact that the ECB will have to maintain its level at around 2,00%. Although the two mentioned issues

are investigated through detailed research from the ECB, in the last section of this part there is thorough analysis and discussion of the mechanics of the implementation of the monetary policy. These issues are vital to the project since the same situation and mechanism will prevail in Cyprus as well. This is essential for purposes of interpreting the data, when comparing the Euro Area economy to Cyprus in Chapter 4.

2.4 The Maastricht Treaty:

Eurozone is not just a single currency market. It is the actual monetary integration of member states into the European Union. The full implications are reflected in the Maastricht Treaty of 1992. The treaty lays down a series of convergence criteria – which came to be known as the Maastricht criteria – required for a successful monetary union and the introduction of a single currency.

The Treaty of Maastricht however is more than a set of convergence criteria. It seeks to attain a higher degree if integration and convergence across member countries as a prerequisite for the single currency. The Maastricht philosophy – and in effect the Eurozone participation and integration – would thus require member states to introduce radical reforms both in the real and the monetary aspects of the economy over a long period of time.

As entailed in the Maastricht Treaty, the strategy toward monetary union and the single currency comprised three distinct stages:

- Completing the liberalization of the capital flows

- Strengthening the institutional framework

- Fixing national currencies

The first stage of the institutional framework was completed by December 1993. By that time all the existing members of the European Monetary System (EMS) had abolished all remaining controls on the movement of capital to that date.

The second stage of the institutional framework was completed by December 1998. During the period the convergence of member states' economic and monetary policies was achieved. The European Monetary Institute was created in 1993 and it led to the establishment of the European Central Bank (ECB) in 1998. At the same time the independence of National Central Banks was essentially completed and participating countries fixed their exchange rates. Table 2.2 demonstrates the exchange rate fixation of the first national currencies of the first Euro Area member states to the Euro currency:

Table 2.2 The Exchange Rate Fixation of the First Euro Area States

Conversion per 1 €	EU - STATE	
40.3399 BEF		BELGIUM
1.95583 DEM		GERMANY
340.750 GRD		GREECE
166.386 ESP		SPAIN
6.55957 FRF		FRANCE
0.787564 IEP		IRELAND
1936.27 ITL		ITALY
40.3399 LUF		LUXEMBOURG
2.20371 NLG		NETHERLANDS
13.7603 ATS		AUSTRIA
200.482 PTE		PORTUGAL
5.94573 FIM		FINLAND

Source: European Central Bank (1999)

The third stage started on January 1 1999, with the introduction of the euro as a book currency. The national currencies of participating states were in circulation until December 2001. The launching of euro notes and coins came on January 1, 2002 (ECB, 2000). The national currencies of participating countries were withdrawn by June the same year. Thus from July 1, 2002 the euro has been the only currency in circulation in the 12 countries of the economic monetary union (EMU) and also the only currency the ECB has been managing, (ECB, 2004).

National Central Banks of EMU member countries make up the European System of Central Banks (ESCB), (ECB, 2006). National Banks are responsible for Bank supervision in their respective countries and for the implementation of monetary policy decide within the ECB context.

The transition to the final stage of a common currency in early 2002 took place on the basis of the Maastricht criteria laying out the nominal convergence requirements before a member country could be admitted into the EMU, (ECB, 2006).

2.4.1 The Maastricht Criteria:

The treaty of Maastricht lists four types of criteria before monetary union: price stability, fiscal discipline, exchange and interest rate stability (Shandler et al, 2005).

1. Price stability requires that the inflation rate of a given member country can not exceed the average inflation rate of the three best performing member states in terms of inflation, by more than 1,50% during the year preceding the examination of the member state for the purpose and admittance to the EMU.

2. Fiscal discipline is examined on the basis of the two criteria defined in terms of the fiscal deficit and the government debt:
   a) The ratio of the annual fiscal deficit to GDP must not be in excess of 3,00% at the end of the year preceding entry into the

EMU. However interpretation of this criterion has a certain degree of flexibility attached to it in the sense that deviations from the requirement would be looked at favourably if the state in question was making substantial progress in the meantime.

b) Regarding government debt, its ratio to GDP must not be in excess of 60,00% at the end of the financial year preceding entry to the EMU. As in the case of the fiscal deficit requirement, progress of sufficient pace and magnitude toward the target ratio would be taken as adequate compliance where the member state deviated.

3. The national currency must not be devalued for a minimum period of two years whilst at the Exchange Rate Mechanism (ERM).

4. The nominal long term interest rate must not exceed that of the three best performing states in terms of price stability by more than 2 percentage points. Again the crucial period is the year preceding the examination entry to the EMU.

The EMU today comprises 15 members (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Slovenia, The Netherlands, Portugal, Spain, Malta (31/12/2007 accession) and finally Cyprus (31/12/2007 accession) (ECB, 2007).

Along with the 10 New Members States (NMS), excluding, Malta and Cyprus that already joined the EMU, the other three that have not adopted the single currency and thus do not participate in the EMU are Denmark, Sweden and the UK. These three countries decided to opt out of the Euro Area even though they satisfied the Maastricht criteria at the time, (Berger, 2002).

On accession to the EU the NMS have automatically been admitted to the EMU with derogation from adopting the euro as their currency. These countries will eventually adopt the euro as their currency but can choose when to request permission to do so. The focus therefore lies on the requirements for successful participation inside the monetary union.

2.4.2 Rationale of the Maastricht Criteria:

Fiscal Discipline:

The theory of Optimum Currency Area (OCA) defines necessary conditions or properties for well functioning currency area. These include: labour mobility, wage and price flexibility, economic openness, diversification in production and consumption, similarity in inflation rates, fiscal and monetary integration (Ching and Devoreaux, 2003).

The nominal convergence criteria effectively aim to eliminate the inflation bias from the monetary union, given that political complexities have different inflation bias from the monetary union. Given the political complexities and different inflation-employment choices, member countries

may not always be expected to take sustained action, of their own accord, to eliminate the inflation bias from the system. The political costs of high unemployment, which low inflation policies may imply, would render it difficult for individual countries to make the necessary policy choices. The significance of the inflation requirement of the Treaty lies in the fact that it radically changes the way inflation expectations are formed.

Regarding the government debt, its ratio to GDP must not be in excess of 60,00%, which may be the arbitrary. As De Grauwe (2000) notes, there is nothing extraordinary about this number other than the fact that it was presumably the average debt ratio in the EU at the time when the Maastricht Treaty was being drafted. It follows that at a higher debt to GDP ratio a higher fiscal deficit would have been appropriate to maintain the debt ratio constant at any given level of growth of nominal GDP. By the same token, a lower fiscal deficit would be necessary to maintain a lower debt ratio for any given level of nominal growth.

It can be shown mathematically that a debt ratio of 60,00% can be sustained if the fiscal deficit is contained at 3,00% of GDP and nominal growth remains around 5,00% annually. At higher GDP growth, the required fiscal deficit that would sustain a debt ratio of 60,00% is higher than 3,00% and conversely for a lower GDP growth (De Grauwe, 2000).

The fiscal convergence criteria at the same time cap the fiscal deficit to 3,00% of GDP and the debt ratio to 60,00%. The fiscal requirements are also supportive of a low-inflation environment. As experience suggests, a high debt ratio creates an incentive for inflationary policies. When a large proportion of debt outstanding is in fixed rates, an unexpected higher inflation would reduce the corresponding real burden on the government (De Grauwe, 2000).

Whilst unanticipated inflation does not offer a long term option for governments, a high debt ratio will always inject an inflationary bias in short term policy making. The Maastricht criteria eliminate such a policy option for governments. A lower debt ratio in turn can be achieved through more prudent fiscal policies that seek to lower the deficit in relation to GDP. It is thus conceived that a lower fiscal deficit and reduced debt ratios remove the inflationary bias from economic policymaking.

Exchange Rate Mechanism (ERM):

The ERM is intended to prevent countries from using the exchange rate policy as an instrument of short-term policies or to win competitive advantage. In the case of Cyprus the corresponding fluctuation range was 1,45 -1,96 € per Cyprus Pound (£CyP) given the parity of 1.7086 at that time (Angeloni et al, 2005).

The rationale behind the interest rate requirement has to do with interest arbitrage activity prior to entry to the ERM and thereby potentially destabilizing capital gains (De Grauwe, 2000). Where exchange rates had been fixed irrevocably prior to entry in the EMU, a wide difference in the respective long-term rates between tow countries would lead to interest arbitrage.

However, the interest rate requirement should not pose considerable problems. To the extent that convergence proceeds normally, interest rates should converge prior to introducing the single currency. That is, meeting the other Maastricht criteria for inflation, the fiscal ratios and the exchange rate would quickly lead to parity or near parity of interest rates. The crucial element is the correct fixing of the exchange rate parity.

Discussion on the Maastricht Treaty: The investigation of the Maastricht treaty and criteria emerged from my review of the Euro system section. The criteria are directly related to the accession to the Euro Area, since the different member states economies have to be on the same level of uniformity and homogeneity with each other. This process was necessary for the Cyprus economies as well, since it had to lower its debt, maintain the relevant interest rates at specific levels, maintain price stability and keep its national currency from devaluating. In Chapter 4 an examination of the Maastricht criteria and their effects on the Cyprus economy are analyzed, given that these criteria were affecting the economic

environment of the Cyprus economy and more importantly the banking operations.

2.5 The Cyprus Banking Sector:

Unfortunately, the material on the Cyprus banking sector is limited compared to the vast working papers concerning the Euro Area banking system.

According to Stavrakis (1991), the major changes that are shaping the banking industry are the growing and on going deregulation, the increasing globalization of the industry, the changing macroeconomic environment, the impact on technology, the changing demographics and consumer expectations and the new guidelines on capital. However, it is predicting that the undergoing rapid transformation, will lead to a significant "shake out" of the industry, while there are significant differences among the various banking markets despite the noted world wide convergence.

Looking at the efficiency factor of the Cypriot banks compared to Greek and British banks (Mamouneas et al, 2007), one can develop a clear picture of the local banking system. Cyprus is analysed in comparison with those of Greece and the UK for the period from 1995 to 2005. The choice of these countries is not arbitrary. On the one hand, Cyprus is very close to Greece mainly from the cultural perspective and as a result, many Cypriot firms (banks) consider Greece to be a natural destination for the

expansion of their activities. On the other hand, the British banking system is one of the most profitable worldwide (Llewellyn, 2005). Thus, when comparing the Cypriot banking system to the British one, the latter offers a good benchmark for the evaluation of the standards and the quality of Cypriot commercial banks. Mamouneas (2007, p 10) points however that the "efficiency" term is a subject of debate in academic circles since:

> Efficiency refers to the ability of managers (given output and input prices) to use the appropriate portions of inputs (e g labour and deposits) effectively and allocate them in such a way that the cost is minimized and in turn the profit maximized.

Moreover, the anticipated accession to the EU is raising issues of competition. The study is taking the use of loans as an output. Are Cypriot Banks efficient and productive enough to withstand the competition from the banking sectors in other EU countries? The impact of their recent expansion to the Greek market and in Eastern Europe as Mamouneas et al (2007, p24) concludes:

> Cypriot banks appear to be benefiting in the sense that they realise substantial economies of scale. They are not doing so well, however, in terms of technological progress. The Cypriot banks realise more gains from expansion, whereas the Greek banks do so from technological progress. The result is that, on average, the two banking sectors appear to operate at a comparable efficiency level. The UK banks also realise substantial economies of scale (slightly above those of Cypriot banks) and have similar technological progress as the Cypriot banks (but below the Greek ones). Overall, the UK banks have the lower average costs, as they are the most efficient in the use of labour and in the handling of deposits.

The policy of the Cypriot Banks to expand to Greece is justified in the sense that it reduced their average cost and increased their efficiency. The input efficiency (labour and capital cost) of Cypriot Banks however, has a lot of room for improvement since it is proved that there is significant room for improving the productivity of their labour force.

In Mamouneas et al (2007), it is noted that the difficulties in performing comparisons of efficiency between banks is the lack of a full proof method to measure correctly the level of output (loans in this case). Furthermore, it is noted that banks operating under different institutional environments 'may be affected by various, sometimes unobserved, factors that are not possible to include in the econometric specification' (Mamouneas et al, 2007, p 25).

Discussion on the Cyprus banking sector: Although there is limited research on the Cyprus banking sector, this did not put any constraints in my research project since I am dealing with a new subject. It must be noted though, that all associated research is targeted in matters of efficiency and to some extent to competition. However, the research conducted in this section, mentions that comparisons are very hard to measure due to the different economic environments. Moreover, the terminology of "efficiency" and measuring its output is a highly debateable subject not only in the academic world but in business and in politics as well.

The research in efficiency for local institutions is proving crucial to local banking institutions since these matters are fundamental for expanding operations, for maintaining profitability and for business continuation.

2.6 The Euro Area Banking Sector:

The material involved with this section is primarily concerned with the banking integration and the smooth dispersion of interest rates across the Euro Area.

Perez et al (2005, p 5) state that:

> Banking integration in Europe is still low but it progresses over time. The empirical evidence also shows that integration is affected by both, competitive and institutional conditions so it can not be viewed as a uniform and balanced process across all countries. Finally, evidence is provided indicating that the introduction of the Euro has changed the pace and trend of European banking integration.

The study notes that the introduction of Euro is one of the most significant factors towards economic integration since it represents a common monetary policy and a unique and specific basic interest rate for the whole Euro Area. It is noted however that:

> To remove technical and economic barriers to trade and flows of goods and services across European Union (EU) members does not mean necessarily that trade and cross country flows will actually take place, (Perez et al, 2005, p 9).

The difficulty is identified in the fact that the banking and financial integration is not likely to happen (at least in the same manner) as it did with cross country trade. It is identified that in national banking markets,

which are characterised by high levels of concentration, the lower is the penetration from abroad or "foreign" banking assets. More precisely the rules of law, and national factors that are influencing local operations such as the independence of supervisor and the absence of a dominant shareholder have a constructive impact for attracting interest from foreign banks, 'banking integration seems to proceed at a highest speed among Euro Area countries than in EU or developed countries as a whole' (Perez et al, 2005, p 27).

An interesting fact is raised though since it is proved that members that joined the Euro Area in 2004 show no unbalance in the banking integration between new and old members, since

> there has been much less cross-border banking consolidation than domestic consolidation, the indicator does reveal that there has been a relative increase in Euro Area cross-border merger and acquisition transactions, (ECB, 2006, p17).

Is this banking integration at an acceptable level however? Should regulators and policy makers be concerned of the fact that

> Host nation banks for cash management services are less likely to use a global bank and more likely to use a local bank or regional bank (Berger et al, 2002, p 24).

Banking integration issues are focusing on factors that are concerned with the differences and similarities that exist among member states. The identification and understanding of these factors can lead to adjustments

in the new economic environment, to take strategic decisions regarding the Euro Area benchmark in areas such as efficiency, performance and to prepare for an integrated and local increased competitive environment. The mentioned factors also raise issues of comparability of Euro Area's and Europe's major banking markets, since the number of cross-border mergers has been very limited.

Bos et al (2006) attempt to estimate comparable scores for European Banks operating in the single Market in the EU. The scores are obtained through the application of a new method for comparing the efficiency of the European banks. It also takes under consideration that different circumstances (such as supervision, competition, technology etc.) apply in different member states. The convergence of technology issues within the European Union point to the fact that are supportive of a single integrated European banking market that holds the same set of rules, equal treatment and access.

In the specific study, Euro Area and European Union integration for the banking system in terms of efficiency is examined. I am pointing to the "integration" issue of the Euro Area since the banks under scope are operating within the Euro Area but in different member states and using different technology. Furthermore it is identified that 'the efficiency results for European banks differ between studies depending on the estimation technique, sample size, input and output specifications, and period'.

Following my literature review on the subject of the Euro Area banking system and its performance, similarly, Lozano-Vivas et al (2001) are examining the performance for different banking markets, if average banks decide to expand their operations in any other member state. Their work identifies that certain banks can be expected to have profitable operations in other member states as well. Finally in the debateable topic of efficiency, Bos and Kolari (2005) in their research are perfoming a comparison of large and small independent European and US banks. The study identifies that if US and European banks operate under the same profit and cost boundary, the single profit boundary adds constructively to their operations, contrary to the cost boundary that hinders their efficiency. How is competition shaping up in the Euro Area though? Most studies argue about the different methodology on efficiency and differences in input, local environment, technology and that further research is needed in respect to this matter, do all those factors affect the competition however? Cetorelli (2001, p 1) stated that:

> The common wisdom would hold that restraining competitive forces should unequivocally produce welfare losses.

Competition is fundamental to ECB's monetary policy since market dynamics are swiftly affecting consumer and market demand that change the level of interest rates. It is identified in this section that time issues are vital to the decision making and the validity of the ECB's decisions upon setting its monetary policy.

Leuvensteijn et al (2007) investigated the measurement of competition in the EU banking sector. The research facilitates a new approach, Boone indicator, to calculate and compare the loan competition of the Euro Area markets (member states). The Boone indicator computes the marginal costs of performance in terms of a banking institution's market share. The paper identified that different conditions within different member states differ extensively with each other. The identified differences point to specific member state's banking market characteristics, such as regulation and concentration levels.

Bikker et al (2008, p 1) investigate in detail the developments in banking competition during the last 15 years in 101 countries. It is stated that:

> The changes in competition over time in the 101 countries under consideration are small, but substantial for several countries and regions. Various major Western economies faced a significant decline in the banking competition during the past years.

This stunning observation of the declining competition in major Western economies is an aspect of the emergence of larger banking institutions (through consolidation) and the relevant consequence of their elevated and expanded operations through different accounting classification methods.

Is the increased competition dispersing interest rates uniformly across the Euro Area? Affinito et al (2006) argue that the interest rates across the Euro Area are not distributed uniformly, in fact the banking market is still highly segmented and the degree of integration in a single country is

greater than in the Euro Area. These national differences can be partially explained because of the special characteristics of domestic depositors and borrowers. These factors such as risk exposure, disposable income, alternative financing sources, average firm size, banking market concentration, asset and liability structure differ from one member state to the other. As it is stated

> Several aspects can explain the differences across countries. The dispersion of interest rates is partially due to persistent national practices. For example, the fees applied in some countries to overnight deposits affect the larger dispersion. Further differences are due to the composition of national balance sheets. For example, in several countries, deposits redeemable at notice are widespread, with increasing interest rates on larger deposits, and are used even for settling other financial products such as mortgages; by contrast, in other countries (such as Italy) they are less important and usually offer a low return. In a similar way, the very different share of overdrafts in the banking business of the 12 countries adds to the dispersion; this probably also explains why the "total loans" indicator has a higher dispersion than each component. The characteristics of bank customers, mainly the risk profile of borrowers, are another factor influencing differences. For example, overdraft relationships imply a larger variance of the level of risk of the customer and this means a larger variance of interest rates applied to the borrowers. Affinito et al (2006, p7)

However, Affinito et al (2006) took into account some "demand side" regressors – for example risk profile, disposable income – and "supply side" regressors – i e banking market concentration – many differences disappear. Taking into account these factors then the national characteristics that differentiate the bank products appear similar. It is concluded that:

Where the bank customer is likely to be stronger, because of greater market power or better information (corporations versus households, large versus small firms, repos customers versus current-account customers), interest rates tend to be more homogeneous across Europe. By contrast, geographical proximity and other elements of natural and structural "closeness" between banking systems do not systematically influence the similarity of their interest rates as much as could have been expected. Affinito et al (2006, p 32)

Vajanne (2007) looked into the integration in Euro Area retail banking markets and came up with the conclusion that there are obvious differences in the retail lending rates for a number of different loan tools within Euro Area member states. It is also concluded however that

In spite of the differences in levels it is possible that the integration process is under way. We find in addition to these persistent 'long term' differences in the retail lending interest rates some evidence for convergence in the interest rates. The speed of convergence varies in the different categories of the products, Vajanne (2007, p 1)

Taking it a step further, Sorensen et al (2007) focused on one particular banking market: the market for mortgage loans. As in Vajanne (2007) and Affinito et al (2006), they also came across various national mortgage loan demand and supply determinants in their study. Because of the fact that they are focused on only one item (mortgage loans) some of the heterogeneity can be explained. Nevertheless, a big part of the distribution of the mortgage rates remains unexplained. This suggests that the irregularities point to institutional differences within each member state that are mainly attributed to the differences of in the legal and regulative framework of the mortgage rates.

It is concluded however that:

> Mortgage rates are rather heterogeneous across Euro Area countries, both in terms of levels and changes. Part of these differences may be due to measurement problems in the sense that the MFI interest rate statistics do not include fees and other non-interest related costs that households incur when taking out a loan, Sorensen et al (2007, p 5)

Discussion on the Euro Area banking sector: The reviewed material in this section is concentrated with the essential aspect of the Euro Area amalgamation with a focused perspective on the banking sector: the banking integration and the homogeneity of the interest rates (across the Euro Area). At first glance, studying the vast literature review in this section, I did not come up with anything that was close to my subject. Moreover, any review on the Euro Area banking sector is relatively new since the euro has only been in circulation for merely 10 years now. The associated research however, regarding the banking sector was right to the point. The questions in hand for the ECB and the MFIs that operate in the Euro Area are concerned with the differences and similarities of bank performance and efficiency among European countries. The interest for these issues is derived from the fact that the answers to these issues will provide vital information to regulators and the MFIs, regarding banking performance, strategic decision and to prepare for increased competition in domestic and cross-border markets. Therefore, the papers reviewed in this section are associated with the segmentation and the integration of the banking sector in single states and in the Euro Area. It is pointed out that there are national characteristics of domestic depositors and borrowers. For example and to be more specific, the differences in the

national characteristics are identified in the related factors of: risk exposure, disposable income, alternative financing sources, average firm size, banking market concentration, asset and liability structure, since they differ from one member state to the other.

This is in fact related to my project study as well. The comparison and assessment of a single member state, Cyprus, to the Euro Area banking sector does not on this stage involve the mentioned factors in the research. It is oriented in more specific and straight forward comparison between the two sectors. The purpose of my research study is to examine the accession of a banking sector in the broad family of the Euro Area which by the end of 2007 was comprised of 13 member states. The associated research in this section clearly implies that there are a number of issues to be considered in the future, such as banking integration, performance and efficiency.

2.7 Synopses of Chapter 2:

The literature review provided me with solid foundation for my research study. Since the research project is concerned with matters of banking, and its associated banking sectors in Cyprus and the Euro Area, the review was performed in two stages. The first stage involved the comprehension of participating and operating in the Euro Area environment and specifically the associated mechanisms and rationale of the Eurosystem. Before accession to the Euro Area the Cyprus economy was more flexible in terms of monetary and fiscal policy since this

mechanism was regulated by the CCB. In the Eurosystem this mechanism is set by the ECB according to certain standards/benchmarks that are derived from the Treaty of the European Union. These details were reviewed and are pointed out in Chapter 4 where the assessment of the Cypriot (prior to its accession to the Euro system) and the Euro Area economies is taking place. The aim of acquiring knowledge and understanding of the subject area, studying and reviewing also previous research related to the matters of banking in Cyprus and in the Euro Area, is achieved.

The second stage involved the banking sectors in the two economies. In this section it is reviewed that there are no benchmarks or standards. The Euro Area banking sector already operates in the Euro system, the Cypriot banking sector is just about to participate in the Euro system. Chapter 5 is occupied primarily with the comparison of the banking sectors. It also looks at specific levels of key interest rates that were also a subject of investigation as my literature review pointed out.

Although, it was not an intention to devote a whole Chapter in the Cypriot and Euro Area economies, and also devote another Chapter in the banking sectors, reviewing the material associated with my literature review, it was found that in order to reach specific conclusions and recommendations the associated factors that concern the pricing policy of a bank, should also be accounted for. Therefore the examination and the assessment of the economies and the banking sectors (in Chapters 4 and

5 respectively) is performed in order to: a) compare the two areas and sectors between them, and b) to understand the factors that are shaping up the policy factor.

The literature review provided an insight of the associated problems that exist in the Euro Area banking sector regarding its integration and operation. This is a major factor that is concerning not only the MFIs that are currently operating in the Eurosystem, but also the regulators. However, this is a matter that involves the current operation in the Eurosystem and indirectly does not involve my research project. Inevitably though, the comparison of the economies and the banking sectors revealed that certain matters are subject to further investigation, such as the factors that shape the level of the deposits and loans and their associated interest rates when are compared with the two economies.

My project looks at the effects of a banking institution during its accession to the Eurosystem. The literature review is relevant to the project study since the banking sector pricing factor is directly related to the interest rates of loans and deposits in the Euro Area. Chapters 4, 5 and 6 are concerned in detailed with these matters and are linking this information to the conclusions, findings and recommendations of my project study in Chapter 7.

In the next Chapter, a review of my research methodology and approach is outlined. Furthermore, the whole Chapter is devoted in my combination

of methodologies, the data collection methods and analysis techniques along with matters of validity and reliability. Also, ethical issues are discussed, as my role in the research project. By the end of the next Chapter, the project study will focus on the operational environment, the economies, of the two banking sectors.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction:

Following the literature review Chapter, in this Chapter, I am reviewing research methodologies and methods. In section 3.7 and thereafter I am describing the research methodology and methods used in my project.

More particularly, this Chapter refers to the following:

- Purpose of the research

- Research Approaches – Research Families

- My combination of methodologies

- Data collection methods and analysis techniques

- Validity and reliability/dependability

- Ethical Issues

- My role in the research

The aim of my project is to assess the Cyprus economy accession to the Euro Area in order to determine the effects of the pricing factor that the local banking system is faced with. My research has focused on the loans and deposits of the banking sectors in the Euro Area and in Cyprus, their associated interest rates and their current trends and characteristics. The research project is related to the changes that a financial institution is faced upon its accession into a different economic system. Specifically, crucial institutional sectors of the Cypriot and Euro Area economy, such as

the household, non-financial corporations (NFC) and government sectors were compared between the Cypriot banks and the Euro Area MFIs. These sectors are compared in relevance to their spreads (the net interest margin -NIM) and their net return for the Euro Area MFIs and the Cypriot banks.

In order to comprehend the economic and monetary effects of this transition and the factors that are shaping up the pricing of a banking institution, it is necessary to study and compare the different economic environments (economies). Furthermore and following the literature review in the previous sections 2.5 and 2.6 (the Cypriot banks and the Euro Area MFIs), the operational environment of the banking sectors is also shaping up their pricing structure. Therefore, the research of my project study is broken down in two parts:

The first part includes Chapters 4 and 5. Chapter 4 is an analysis and comparison of the Cyprus and the Euro Area economies. For the Cyprus economy, I have taken into account the special characteristics that the Turkish Invasion in 1974 created and the recent economic convergence, Maastricht criteria, which it had to implement to be eligible to join the Euro Area. For the Euro Area economy, the data series do not expand that far, since the introduction of the Euro as a single currency was introduced in the 1st of January 2000. Furthermore, in Chapter 5, the project report is examining the banking sector in the Euro Area and Cyprus and focus on the differences that exist between them. The examination is performed

solely in the subject of the banking structures between the Euro Area MFIs and the Cypriot banks.

The review, examination and comparison of the economies and the banking structures of the Euro Area and Cyprus will provide the reader with enough material to understand the factors that are shaping up the pricing policy for the Cypriot banks but for the Euro Area MFIs as well. The prevailing economic conditions in both areas as well as the factors outlined in the literature review, such as the Maastricht criteria, the national regulation of each member state, technology issues and regulator's policy are the major catalysts for the level of the interest rates within each member state.

In part two of the project, in Chapter 6, the actual pricing factor, the spreads, the net interest margin, the return on the sector and the level of deposit to loans is under comparison and assessment between the Euro Area MFIs and the Cypriot banks.

In Chapter 7, after the completion of the research, the conclusions, findings and recommendations are outlined, as derived from Chapters 4, 5 and 6.

The approach of my research has been shaped by the needs of the project and the Work Based Learning nature of my study Programme. Furthermore, taking into account my audience, the senior executives at

the Bank of Cyprus, the specific conclusions, findings and recommendations of Chapter 7, will be facilitated in the executive business report that will be handed to them for decision making.

Moreover, the additional Chapters 9 and 10, point to the fact that precise findings can be extracted with the use of aggregate data, especially when comparing one member state to the other.

3.2 Purpose of my Research:

The purpose of my research is to examine the effects of the pricing factor of the banking sector in an economy upon its accession to the Euro Area. Considering that the project is examining the effects of Cyprus' accession to the Euro Area, for the Cypriot banking sector (and not for a specific banking institution) this research can facilitate other economies that will access the Euro Area in the future.

As described on section 2.1 of the previous Chapter, the main objective of the research project is to evaluate the pricing factor of the local banking system towards it accession to the Euro Area. Although there a number of different factors that are shaping up the pricing policy of a financial institution, the research project is concentrating on loan pricing and deposit pricing as it was stated on my research proposal. Although the rate setting process, and in addition to the comments on the previous section, involves a wide set of parameters like, provision for bad debts, interest costs, market positioning, the research project is focusing on the

actual spreads that existed in the Euro Area and in Cyprus as at 31/12/07. Following section 3.1, the identification of the current economic situation in both areas and the status of their corresponding interest rates are the main topics of research.

The research questions that are raised on the previous Chapter will comprise the key issue of my conclusions and findings, since the outcome of the research project is to provide my stakeholders recommendations based on the actual work performed.

It is necessary in this Chapter to outline the methodologies and techniques used in order to provide a road map for the reader and to outline comprehensively the work performed on the project. Moreover, it is essential that all the methodologies and techniques are outlined and discussed so as to choose the best combination to achieve an optimum result for the outcome of the study.

3.3 Research Approaches:

In this section I will briefly describe the most common research approaches and during this deduction process, I will discuss the case study approach which is used in my research study. There is a vast list of research approaches, but according to the NCWBLP resource pack User Guide page 52, there are five different research approaches: Action Research, Case Studies, Experiment/Surveys, Ethnography, and Soft Systems.

<u>Action research</u> is

> the process of systematically collecting research data about an ongoing system relative to some objective, goal or need of that system; feeling these data back into the system; taking action by altering selected variables within the system based both on the data and on hypotheses; and evaluating the results of the actions by collecting more data (Remenyi et al, 1998, p 49).

Therefore action research is used widely in cases where it can be applied practically in the everyday social world.

In this type of approach the research is situated within a 'live' situation. The action researcher is literally involved in a real manner in an organizational situation, and the essence of his/her work is to attempt change and monitor results. It is important for this type of research for the researcher to be conscious of the impact that his/her presence has on the situation.

Action research is usually used for changes within the organizational structure of institutions and it has proven useful in the area of managing change (Remenyi et al, 1998).

Although Action Research ensures a thorough methodology, involves people, opens up a problem and is focused on the problem, it is time consuming, it relies on the goodwill of participants, it needs a set of people and has a wide focus angle on the problem. It is used basically for personnel and work related problems that arise within an organization.

Since the project is not dealing with the subject of behavioural change, I decided not to choose this approach in my project. Moreover, I am not in a position that I can influence and evaluate change within my organization.

The Soft System Methodology (SSM) is a holistic approach, highly flexible and suitable for extremely complex problem situations in which there is a high social, political and human activity component. The SSM is an extremely useful tool as a methodology for conducting Action Research, Gill et al (2002, p 78).

Soft problems are defined as extremely complex, difficult to define, have social, political and human activity elements and are problem-situations rather than problems.

According to Gharajedaghi (2004) the world around us looks complex and chaotic because we use inadequate concepts to explain it. The complexity and chaos we face within a given context is closely related to the number and nature of critical interactions and interdependencies among variables.

Furthermore, Gharajedaghi (2004, p 109) describes the Soft System Methodology as ~~is~~ not a "how to build a system guidebook", but it is heuristic and algorithmic. He goes on to identify that there is no real method, but then many other more "prescriptive" methodologies do not work. The methodology spurs the pledge and the dedication among

participants to bring together different opinions and interests, and that makes it very difficult to manage. Moreover, research projects facilitating the certain methodology, are never perceived as complete, but they reveal a continuous evolutionary approach (Gharajedaghi, 2004).

Employees of organisations do not have the same or equal choices, therefore it is not easy to honestly and frankly talk about their needs, problems and perceptions. In today's highly competitive and demanding work environment, principles such as openness and togetherness that are embedded in the Soft System Methodology, are complicated not only among participants but also within organisations (Gharajedaghi, 2004).

My project is not dealing with a soft problem, it is concentrating in external market developments, rather than internal change. These factors make the Soft System Methodology not compatible with my project. Moreover, Cyprus's accession to the Euro Area can not, to my opinion, perceived as a problem situation since this development is the result of a long economic goal set by the Republic of Cyprus.

Experiments are not difficult to plan if they deal with measurable phenomena. For instance, if two identical groups (age, sex, ratio of male to female, social class) are selected, one of which – the experimental group – is given special treatment and the other – the control group – is not, then any differences between them at the end of the experimental period may be attributed to the difference in treatment. Bell (1999), states

that experiments identify conclusions that can be drawn from 'cause and effect', provided that the experimental research design is sound. Moreover, it is identified that for the social and education sciences, because of the different characteristics and personalities of the subjects (participants) involved, large groups are essential to be controlled, Bell (1999). On the other hand, as Remenyi et al (1999) state although insight relating to worker productivity have resulted from experiments, it is not common to convince organisations to provide all the necessary resources for a field experiment on issues relating to worker efficiency and effectiveness. This approach to research is straightforward with the main problem for the researcher being the acquisition of access to organizations undertaking changes on the field.

However, I am not using this approach because my project is not concerned with worker productivity, or performance, or product development, where it would be more appropriate to use it. It is noteworthy that this particular research approach, in the fields mentioned before, is result oriented.

Bell (1999) also discusses surveys, where the primary goal is to gather information. This information can be analysed, different data sets can be extracted and compared between them. The most typical example of a survey is the census, in which a standard set of questions is asked repetitively to the population. The population consists of a certain group of respondents or it can consist of a larger sample. Since surveys are

dealing with a selected respondent's specimen and not the whole population sample, it is not feasible to cover 100,00% of the specimen. Also if you take into account that all the same questions will be asked to the sample under the same circumstances, then the careful selection of questions and population sample has to take place. The survey medium can be a questionnaire, a checklist or schedules administered by the researcher. The purpose is to obtain information from a large number of population sample and in a uniform manner, in order to allow the researcher to analyse, compare, and relate to any identified characteristic that is derived from the survey, Bell (1999).

A well designed survey with careful piloting can ensure that all questions mean the same to all the respondents. However, a survey regarding the Cyprus's accession to the Eurozone would just provide me with a public opinion of what at that time was expected and not anything of substance regarding the banking sector. In addition, the subject of my project is not a public census or opinion about the economy's' transition or the adoption of the euro currency. A survey was not chosen for the following reasons:

1. The survey results would provide snapshots of opinions in a specific time frame, rather than focusing on the underlying economic changes. At this point I find it deliberately to mention that the biggest political party on the island was opposed to the accession to the Euro Area and extensively to the adoption of the euro currency.

2. Issues of truthfulness and accuracy are a major setback since I would not be able to confirm the understanding of the respondents to the questions asked.

3. The survey would be small scale and thus the findings are likely to be invalid and out of focus, Blaxter et al (2001, p 72).

According to Bell (1999) the <u>ethnographic</u> style of fieldwork research was developed originally by anthropologists, such as Claude Levi-Strauss, who wished to study a society or some aspect of a society, culture or group in depth. Structuralism represents an attempt to reveal that a specific field of study, as a compound system of interconnected pieces. Human culture can be understood through an interrelated system of signs, phenomena or activities that are regarded as significant. Therefore, the ethnographic research relies on observation, for studying a simple phenomenon that relates to a society. This type of participant observation allows the researcher to participate and share the same experiences as the subjects in order to understand their actions and feelings. Bell, (1999, p 13) states that 'this approach is no longer limited to anthropological studies and has been effectively used in many studies of small groups'.

The researcher not only has to participate in the subject group, but it also has to be accepted, even if this means that he has to live and work in the same environment and circumstances. However, this is not only time consuming but it posts a serious question of representative ness (Bell, 1999). The key question here is that generalisation can point to different

results and findings, since a group that is studied for a long period of time can not be representative or typical to the other groups or the whole sample (Bell, 1999). Nevertheless, Bell (1999, p 13) states that '...the study may be relatable in a way that will enable members of similar groups to recognize problems'.

Although the specific approach is mentioned for the purposes of the dissertation, the subject area of my project study does not justify the use of this approach. This approach fits well in social and anthropological issues of research.

According to the NCWBLP User Guide, the <u>case study</u> is ideally suited to the resources and environment of a work based researcher. Since the case study has been identified from my research proposal that will be chosen for my research approach, I will refer to it extensively in this part of this section. Yin (Remenyi et al. 1989, p 165) states that

> A case study from a research strategy point of view may be defined as an empirical inquiry that investigates a contemporary phenomenon within its real life context, when the boundaries between phenomenon and the context are not clearly evident, and in which multiple sources of evidence are used.

Moreover, 'It is particular valuable in answering who, why and how questions in management research', (Remenyi et al p 50). Therefore, choosing the case study I will investigate the Cyprus's accession to the Euro Area and the effects associated with the pricing effects of the local banking sector, as a contemporary phenomenon facilitating comparison between the two areas

and the two banking sectors, and also to interpret in an actual manner of what should be done, or avoided (recommendations) within the perspective of the Euro Area.

In research the case study has two distinct characteristics that can be used as research tactics (Remenyi et al, 1998):

1. It can be used in establishing valid and reliable evidence. The evidence on hand can create a theoretical hypothesis or 'to support or contradict an already established theory' (Remenyi et al, 1998, p 165). There are two ways/perspectives that a researcher can analysed and interpret its evidence: a) positivistic or b) phenomenological. A positivistic analysis requires the compilation of numerical data as evidence and its application into deductive statistical analysis. Positivism relies on the fact the researcher is intact and independent from the subject of his research Remenyi et al (1998). The evaluation and measurement of observations into numerical evidence that are distilled through numerical analysis is the main characteristic of the positivistic respective. A phenomenological analysis is more concerned with the interpretation of the whole evidence rather than the analysis of explicit evidence, mainly because it is more related on organisational process.

2. The presentation of evidence can also be facilitated in a narrative or a story. The case study has to be presented in such a way that the evidence have to follow a structural,

intelligent logical and convincing style to the reader. A rationalisation of the questioned issues is then clarified to the reader. The researcher using a narrative, has to develop and also challenge the hypotheses of the research in the same manner a researcher tests the hypotheses of the research process. Following that, the narrative or a story has a research structure as the research process concluding that it can be regarded as the creation of knowledge (Bell, 1999 p 184).

Remenyi et al (1998) discuss that practical real-life instances can sometimes provide the complete picture of all the relations and actions involved. The main goal is to identify and present these relations and actions of the specific topic being researched. Remenyi et al (1998, pp 165-166) state that:

> …a full picture of the actual interaction of variables or events can only be obtained by looking carefully at a practical, real-life instance. The case study allows the researcher to concentrate on specific instances in an attempt to identify detailed interactive processes which may be crucial of understanding…

The transitional effect of one economic environment (Cypriot economy) to the other (Euro Area) and their corresponding level of these interest rates are under examination. This can be related to a practical real-life instance as it is mentioned above. The specific event taking into account all the variables and events that are interrelated with the pricing policy of the Cypriot banks (specifically the level of interest rates and their associated spreads) is under investigation.

The case study is suitable to:

> "Focus is on a contemporary phenomenon within its real-life context & boundaries between phenomenon and its context are not clearly evident, making it suitable for studying complex phenomena" (Yin, 1994, p 1).

Phenomena like this can arise through economic transformation also. One of the major issues of joining the Euro Area as a member state, one of the significant gains of the economic system, the Euro Area, is the stability and firm growth each year (The Treaty of the European Union, Maastricht 1992). Apart from the fact that is a very complex but yet so far successful, the last couple of years proved otherwise. This has cost so much that the growth has transformed to "recession" recently. The mechanism of setting the whole European Central Bank's procedural and it sets it in motion, is the definition of the interest rate levels (European Central Bank, 2001). This particular fact, the definition of the interest rates on a monetary union that consists of 15 member states, in a rather cast area on the map and are operating internally different but within the same guidelines and parameters, can cause discrepancies in the level of the interest rates and level of operation for a financial unit like the banking sector, that I am involved.

Therefore, the definition of the interest rates has been the case on this research project, and the actual unit of analysis was the effect of the pricing policy of a banking institution. This has taken quite a while, because of the particular complexity of the Euro System. In order to identify the precautions of the definition of setting the level of interest rates

as to ensure stability (European Central Bank, 1999), a necessary overview study of the Euro Area has to be taken under consideration, specifically on the banking sectors, in order to process the economic environment and health over this condition, this was handled on Chapters 4 and 5. Within the same context the same was applied for Cyprus and its banking sector. On Chapter 6 an evaluation of the operational level of the interest rates within the parameters of a financial and banking institution it was identified that during this transmission process, which occurred on 31/12/2007, there were differences on this level of the interest rates that have proved rather profitable for the local institutions. Taking the research to the point of assessing the local banking sector with a relevant banking sector in Chapter 9, like the Greek banks, the research project has proved that: a) the transitional effect of the interest rate definition is profiting the local banks, b) on the other hand the more integrated Greek Banks into this new Euro Area environment, it seems that the they have adopted to a similar manner with their Cypriot counterparts, by expanding to foreign operations.

This case study that is presented through my research report identifies, and also justifies its value to my stakeholder since it involves aggregate and disaggregate data to extract specific results that lead to strategic recommendations. These results prove that there are interest rate differences during a transitional phase that are having an effect on the local banking system. As it is in the case of Cyprus it is proved that the Cypriot banks are profiting through this transition compared to Euro Area

banking institutions and the Greek banks, and that the Greek banks have adopted to the system by expanding further.

Looking at the current case study from the point of view of a broader general analytic strategy was to facilitate case description. That involves the description and identification "of the general characteristics and relations of the phenomenon in question" (Yin, 1994, p 5). During the process however, the second general analytic strategy that relies on theoretical propositions was widespread on my research project. By following theoretical propositions you can navigate freely in the form of your designing the case study. As Yin (1994, p 5) states: "..helps to focus attention on certain data & ignore other data". Therefore, at first I was faced to produce results and data from the description of the general characteristics of the Euro Area and Cypriot economies, and the Euro Area MFIs against Cypriot banks and also at the end the Creek banks against the Cypriot banks, and that involves case description general analytical strategies. For instance, taking as an example the Treaty on the European Union (Maastricht, 1992) the major concern and ultimate goal was the health stability of the system. The whole concept of the monetary union is the stability that it will maintain. Therefore, the framework of the Eurosystem, was taken as a granted, a given. From there on I tested my case study as described above.

Second, I had to isolate data and look at specific rates and numbers. This process involves a theoretical proposition that the levels of the interest rates amongst the Euro Area members are uniformed. For that reason, the focus of this effect was solely and directly to the level of the interest rates charged and credited. By taking numbers out that involve too much noise in this case study, such as the recovery rates and provisions at least, the focus was on specific data that typically supplanted other data sets. This combined process of general analytical strategies has provided unique results for the operation and strategy of the Cypriot banks in the greater South Eastern European side and beyond, and how is their current capital structure and health to compete and grow in their own environment. The numbers that refer to the general descriptive term of the factors that affect the level of the interest rates can be found on the Annex section.

One of the concerns of the specific research project is that the unit of analysis is broad and general to my stakeholders. According to Remenyi et al (1998, p 166) 'the unit of analysis refers to the type of organisation to be studied'. In my research project, the unit of analysis refers to the whole banking sector in Cyprus and essentially their level of lending and deposit rates. Conclusions, findings and recommendations to my organisation are targeted after critically assessing and evaluating the situation in the Euro Area compared to Cyprus. Although the unit of analysis is not refereeing specifically to my organisation but rather as a group of organisations, the same unit of analysis was used for the Euro Area as

well. Moreover, and following the conditions for completing this module, the research project was also concentrated on a specific Euro Area member state, in order to produce more tangible and relevant results for my organisation. Furthermore, the specific time frame of Cyprus's accession to the Euro Area (31/12/2007) was critical to my evaluation since my research project was completed more than a year after that. According to Bell (1999, p 11),

> The great strength of the case study method is that it allows the researcher to concentrate on a specific instance or situation and to identify (or attempt to identify) the various interactive processes at work.

This time frame or specific instance has provided my stakeholders a clear picture of the banking sector (relating to their associated loan and deposit rates), correlating their position within the sector in the same time. As Remenyi et al (1998, p 167) state:

> Case studies provide real-time information that can be used as up to date as the researcher requires to, making this approach ideal for contemporary issues and especially relevant in the fast-changing world of business and management studies.

The case study approach is widely used in management and economics research projects. The research area of focus is based in economics and how it affects the business studies in the banking sector in Cyprus but also to a small extent in the Euro Area. Studying the literature review and the associated bibliography that comes with it, it is concluded that most of the economic research is derived from case studies. The major bulk of the literature review that I have conducted so far, related to my subject, is

characterised from the case study approach. My intention is to use the case study approach since I will use as local and European data and apply Statistical methods for my findings, "Positivism emphasizes quantifiable observations that lend themselves to statistical analysis" Remenyi et al (1998, p 165). Furthermore, the aim of my project is to find out what the effects of the banking sector are, after Cyprus accession to the Euro Area. As described in Chapter 1, the aim is multidimensional since it involves the examination of the Euro Area and Cypriot economies and banking structures. The examination of other dimensions is essential for understanding and recording in the research project, the reasons that the level of loans and deposits and their associated rates are different. The case study approach will give me the ability to illustrate the different relationships that are interconnected and are essentially affecting the pricing factor of a financial institution.

I will adopt a positivistic respective since a conclusion to the problem at hand can be achieved when the appropriate data is collected. Thus, all the relevant data that will lead the project report in specific conclusions and findings, will essentially treated as evidence-collection material.

In particular for case study

> Its importance is partly due to the fact that it may be used in a number of different ways that accommodate the complexity which is often an inherent part of the business and management research process, Remenyi et al (p 162, 1998).

As it is identified from the literature review, there are a number of different factors that connect to the complexity of Euro Area banking sector. The different national supervision within each member state from policy makers and regulators, the openness of national banking rules, the absence of dominant shareholders, the different level of the member states economies, the level of efficiency, the technology, the consumer habits and preferences are contained in the level of the each member's state banking sector interest level. The research project is not ideally concerned with this level of complexity but is rather focusing on the differences that exist between the level of the interest rates and their spreads within the context of comparing the Euro Area with Cyprus.

The research project involves the comparison of the Euro Area and Cypriot economy within the framework of identifying and evaluating Cyprus' convergence into the Euro Area economy. If Cyprus was not actually converging to the Euro Area but it was just meeting the Maastricht criteria, most probably the results obtained from the analysis would be different with a relevant consequence on the Cypriot banking sector. However, this does not mean that the same evaluation on the Cypriot economy is not necessary to implement. Furthermore, the evaluation of the Euro Area in respect to the Cypriot economy is a preliminary step before assessing the banking sectors for both areas. This introductory comparison is essential in identifying and/or understanding the different factors and situations that are shaping the local and Euro Area realities.

On the next level, the level of the interest rates and the most major sector for both economies/areas is assessed and compared. At this crucial level the involvement of the different spreads for each sector, and the differences that exist on the interest rates charged, will provide with enough information to assess, reflect and post specific recommendations. The recommendations are solely derived from the assessment of the banking sector's transition to the Euro Area and they involve my stakeholders, on the grounds of a broader strategy of operating within this new economic environment.

3.4 Research Families: Considering the research families involved, I had the option of using qualitative or quantitative research, or a combination of both.

Qualitative Research: It has to do with "hands on" or experimental or experiential research. The qualitative research is exploring the reasons ("why") behind situations and is not concerned about the facts that shaped these situations ("how"). Qualitative researchers facilitate different methods for conducting research such as interviews, observations and thorough documental analysis, since their main concern is the interpretation of situations as they occur in reality. So, the term "data" for qualitative researchers can easily obtained through videos, pictures or other observations mediums   Therefore, the qualitative researchers are more concerned on social issues that are usually characterised through unstructured data. According to Neuman (2004) qualitative researchers

approach measurement very differently. Specifically Neuman (2003, p 106) states that:

> They develop ways to capture and express variable and non-variable concepts using various alternatives to numbers. They often take an inductive approach, so they measure features of social life as part of a process that integrates creating new concepts or theories with measurement.

Therefore, researchers are very thorough in gathering data and producing results based on their measurements. In the process of gathering the data qualitative researchers are assessing the on-going process and try to challenge and/or develop new ideas.

Quantitative Research is empirical research where the data are in the form of numbers. It is concerned with the collection and analysis of data in numeric form, aiming to develop relations between variables.

Neuman (2003, p 107) points out that

> Quantitative researchers think about variables and convert them into specific actions during a planning stage that occurs before and separate from gathering or analyzing data

Although the main variables in my research project were not the typical questionnaires used for quantitative analysis, but the main variables of my research project were the different deposit and loan interest rates that exist between them, in order to examine the effects of the Cypriot Bank's transition to the Euro Area. Specifically I have used the different levels of the interest rates as a benchmark of comparison between the different

sectors of the economy. Moreover, the variables are examined with respect to their trends and main characteristics in order to identify the main differences and deduct conclusions and recommendations from these findings.

Moreover, Neuman (2003) says that quantitative research tends to adopt a deductive approach, meaning that a concept is conceptualised before collecting the data, from thereafter, it can be expressed in numbers.

Moreover, the vast amount of data associated with the Euro Area and Cyprus economies and banking structures, is a major consideration in choosing the quantitative research family. The information obtained from the Cyprus Central Bank (CCB), the European Central Bank (ECB), the European Statistical Service (Eurostat) and the Statistical Service of Cyprus was gathered and compiled to simple tables in order to express and detain specific results for comparative analysis.

However, the level of the statistical methods involved, does not meet the quantitative research family in its strict meaning. In my research project, quantitative research included the collection and analysis of data, and their evaluation and comparison to produce specific results. No models were generated relating to specific theories and hypotheses and no instruments and specific methods of measurement were deployed.

The comparison of the Eurozone and Cypriot Economy, the banking sector and the precise measurement of the effects of these factors to the pricing structure of a banking institution are the main considerations of evaluation for the research project.

3.5 Fieldwork: The process of going out to collect research data that is referred to as original or empirical. Usually this type of research family has significant value in certain disciplines such as anthropology and sociology, due to the fact that the researcher has to be actively involved with the data collection (administering questionnaires, interviews and observations), Blaxter et al (2001, p 62).

This type of process is not suitable for the project since I am not dealing with social and anthropological issues and I am not involved literally in the data collection process in the field as described above.

3.6 Deskwork: Is directly related to the process and collection of data without necessarily have to go out in the field to gather the data. Deskwork researchers can conduct their research by sitting behind a desk. However, placing telephone interviews or email interviews is a grey area, Isn't the researcher at that time, electronically out in the field? On the contrary consider also the fact that researchers that are out in the field use their laptops. Isn't that deskwork? According to Blaxter et al (2001, p 62) the development of information and communication technologies, in

particular the growth of the internet, is blurring the fieldwork-deskwork distinction.

This process is ideally the best possible way to collect the necessary data and conduct my research.

Taking into consideration that my project is not looking at one particular banking institution but at the banking sector of a single economy as a whole, my aim was to generalize my results. To my understanding and based on the extensive literature review on the subject, nothing has been dealt like this in the past, at least not at a doctorate level. Most of the data collected was obtained from official governing bodies such as the European Central Bank, the European Statistical Service, the Central Bank of Cyprus and the Statistical Service of Cyprus. Although all the data collected and presented are considered as secondary data, the sources are officially verified.

The application of verified government bodies was at some extent used deliberately because:

- Data on economic issues could be located with relative ease and free of charge.
- Issues of homogeneity and compatibility did not exist. Both governing bodies report with the same methodology and manner.

- Private organizations (Bloomberg, Reuters) did not provide verified data, although in the field of finance and money markets are used on a daily basis.

However, some problems arose since the data from the Cyprus and European Central Bank were not available. For instance the loan maturity breakdown for the Cyprus Banking Sector were not accessible since Cyprus Central Bank ruled that this information can be "sensitive" and/or maybe be regarded as inside information in the hands of experienced professionals. A detailed loan maturity breakdown is not available in the project study, nevertheless though a researcher can tabulate his/her own results by comparing the annual reports

of the banking institutions to the data of the project study.

I have used disaggregated data, financial data and ratios from annual reports for a specific member state (Greece). This action was performed with the scope of producing more relevant and tangible results for my stakeholders. Although I have extended my comparison in the same manner as in the Euro Area for the banking structures, the level of the interest rates, the household and the non-financial corporation's sector, disaggregated data produced results that are perceived as more appropriate for my stakeholders, given that the analysis is performed for a specific member state and more precise results can be derived.

3.7 My Combination of Methodologies:

From the above summary of the research techniques and methodologies I came up with the backbone of my research project. Therefore, and as a consequence from the above discussion, I am outlining the methodologies involved as follows:

- Deskwork.

- Case study approach.

- Collection of verified secondary data.

- Literature search and review to identify relevant material.

- Internet search of relevant websites and current trends regarding the Banking Sector in the Eurozone.

- Quantitative research.

- Data analysis using comparative statistical methods.

3.7.1 Data Collection Methods and Analysis Techniques:

All the data was collected from verified secondary data and specifically from: The Statistical Services of the Republic of Cyprus and the European Union and the Cypriot and European Central Banks. The data collected is reviewed from documents, specifically statistics, reports, government white papers and from books and journals. The data collection was based on various kinds such as computer based, library/academically based, policy based and electronic. The secondary data collected allowed me to focus on the analysis and the interpretation of findings. Moreover and considering the vast volume of the gathered data, it was not time consuming and expensive and in most cases it was used to double check

and validate certain numerical findings, especially in Chapter 6 where the pricing factor and the different institutional sectors were assessed. Although I have accessed data from the Cyprus Planning Bureau, the Cyprus and the European Banking Associations, the Institute of International Economics and the data bank of the Economics Department of the University of Cyprus, I decided not to use it. The main reason was that the data on hand was not compatible and consistent between the different bureaus. It was however used to cross reference and check the data that was acquired from the official sources as mentioned above.

One of the main concerns of the research project was the consistency and homogeny of the data. According to Remenyi et al (1998), business and management research usually involves multiple case study research, and thus uniformity of recording should be sought as this facilitates comparison between enterprises or situations that allows the highlighting of similarities and differences (Remenyi et al, 1998).

The data used is homogenous since the data methodology from the Statistical Service of the Republic of Cyprus is compatible with the Statistical Service of the European Union. More precisely, the Statistical Service of Cyprus has adopted the 'European Statistics Code of Practice' since February 2005 (the code is located on the Cyprus Statistical Service website), where a number of primary principles are set for the production and distribution of European official statistics. Moreover, the same exists

from the Cyprus and European Central Banks that keep compatible and consistent data.

As it was mentioned in the previous Chapter, the treaty of establishing the Union ensures the independence of the statistics of the ECB, from national and European member states political interference. The ECB takes into consideration internationally agreed standards and it collaborates with the European statistical service (Eurostat) and also takes into account the principles and guidelines as set from the 'European Code of Practice'.

Therefore, the data used and analyzed is compatible and consistent.

The quantitative data involved is analyzed and assessed through Microsoft Excel and a number of tables, graphs and charts are generated through the same software program.

Following my research proposal, the learning agreement, it is already stated that the data analysis does not involve excessive detail. The data analysis and the statistics involved, primarily consist of comparable analysis between the two economies, the banking sector and the pricing factor. Furthermore and following my research proposal again, the aims and objectives of my research project, do not involve specialised data analysis techniques, like frequency distributions or tables with means and standard deviations and correlations. On the contrary, the aims and objectives of the research proposal are concentrated in the straight

forward comparison of the economies, the banking sectors and their pricing policy. The complexity of all the factors involved (the Euro Area and Cypriot economy, the banking structures, the level of interest rates and the amount of deposit and loans) was handled through simple comparative analysis. Through the comparative analysis I developed ideas and concepts that pointed to conclusions and findings. From there on, a set of recommendations was derived from the entirety of the project (Chapter 7).

Issues of objectivity while conducting my research were always considered. The heavy reliance on numbers and numerical data that are compatible and comparable with each other, actually helped solve these issues. Essentially, I could double check and crystallise my results using different available sets of data. This method is described extensively in Chapter 6. There was no room for developing personal opinions since the numbers were not manipulated to serve a specific purpose, instead the tabulation of results created my findings, conclusions and recommendations.

In order to set the benchmarks for comparison between the two banking sectors the first factor to process was the level of the interest rates. Since the Cypriot banking sector was operating under the policy and regulation of the Cyprus Central Bank the different level of the interest levels has to be identified. As a next step, the deposit and lending rates in respect to the local and the Euro Area particularities are assessed in order to spot

the major differences that exist due to different local policies and regulations. Trends, maturity levels and differences between the two banking sectors are identified. The spread difference of the lending and deposit rates is also put under the spotlight not only in their general and broad term but also for specific sectors of the economy. More precisely, the household, non-financial corporations (NFC) and the government sectors are compared between the Cypriot and Euro Area MFIs. The specific sectors are chosen because they constitute more than 83,00% of the total loan exposure for the Cypriot Banks and 93,00% correspondingly for the Euro Area MFIs. These sectors are critically weighted between the two different banking sectors and the gross spreads that exist between them are calculated and also verified using different data sets.

3.7.2 The Use of Averages:

As described in Chapter 1 the main focus of my research study was to produce results and findings regarding the effect of the pricing factor of the Cypriot banks upon their accession to the Euro Area. Although the Euro Area comprises of a vast number of financial institutions, it was attempted to utilise data mainly from the European Central Bank and the European Statistical Service. For the case of the Cypriot banks, data was used from the Cyprus Central Bank and the Cyprus Statistical Service. Major concerns regarding the data sets used were the validity, reliability, verification, availability, access, homogeneity/compatibility and consistency. This methodology has resulted in the use of averages both for the Euro Area MFIs and the Cypriot Banks.

Looking back retrospectively on the use of averages, by definition the average takes a full set of different values (including the lowest and the highest values) and measures the "middle" of the data set. So if for instance you have three values of A=3, B=4 and C=12 the average will produce a value of D=6.33. The average value is D=6.33 raises questions of its actual use when comparing A=3 to C=12 using that average value. A to D appears 47,39% smaller and C stands at 189,57% higher than D. Although these numbers seem to produce meaningless results taken individually, if the sample is big enough then you produce more noteworthy results. The data set from the European Central Bank consists of a sample of more than 6,000 MFIs. In my research project using an average as a benchmark for the Euro Area and always considering the big sample of the data set, provided essentially an awareness of the Cypriot bank's position and magnitude, in the Euro Area. Furthermore, as it is stated in the literature review Chapter, the introduction of the Euro has increased the pace of banking integration in the Euro Area. It is also identified that at a steady but slow pace the Euro Area economies are converging to each other, along with uniform regulation and supervision from the ECB. Therefore, examining the means and the averages actually positions my stakeholders relative to the Euro Area MFIs.

The assessment and comparison of the loans and deposits of the Cypriot banks to the Euro Area MFIs provided results that are evaluated on an average basis. In the case of the interest rates, I have used a weighted

average rate on deposits, in my effort to align my analysis and comparison as fairly and accurate as possible.

The actual event that is the driving force of evaluating the Cypriot banking sector to the Euro Area, is Cyprus's accession in the Euro Area at 1/1/08. The research project is identifying the level of the loan and deposit rates and NIM to the Euro Area and is examining an adoption of a local bank's strategy relative to the Euro Area. Although a number of findings and conclusions were identified in Chapter 7 and a series of recommendations was outlined, further research analysis with the use of disaggregate data between the Cypriot banking sector and another Euro area member state banking sector has proved that more precise results and tangible recommendations can be suggested. The analysis performed between the Cypriot and Greek banking sectors, revealed that an in depth evaluation of specific issues, like the owner tenure in relation to the housing loan rate and banking concentration, and the deposit and loan growth in respect to the GDP growth, can offer a broader but clearer picture on the situation. This level of detail and exhaustion of research analysis can indeed produce specific recommendations. However, data was inefficient in certain cases, like the debt servicing burden to disposable income, which in effect does not complete, in depth at least, the analysis performed. Even though, both sectors were primarily assessed using comparative analysis on their averages, investigating their financial statements and annual accounts for 2007, a new set of parameters was revealed. Cypriot banks may theoretically outperform the

Greek banks in the specific sectors (Household and NFC sectors) that were under investigation but that does not mean that as organisations are posting higher NIM. Greek bank's expansion over the last 10 years, like Cypriot bank's expansion, has counterweighted the low performance from the Greek market.

Conclusively to the above comments, this research project should have included a comparative analysis for the Bank of Cyprus and the Greek sector, however considering the huge time lack of completing this report to the information provided would be meaningless now. Bank of Cyprus has already established its operations in the Greek market, and has expanded (like its Greek counterparts) its operations in Russia and Ukraine. Besides, the main purpose and research statement of this work based research project was to assess the Cypriot banking sector to the Euro Area upon Cyprus's accession to the Euro Area.

3.7.3 The Use of Disaggregate Data:

Coming down to the fact that it is more essential and commendable to compare and assess a specific Euro Area member state to Cyprus, it is acceptable that the level of detail depending on the available data on hand is higher. The availability of the data was coupled by the fact that this information has to be verified from official sources.

One of the issues that I have encountered right from the research design of the research project was the use of verified data from official sources.

Although the area of economics has an enormous amount of information from data vendors, research houses, investment firms, financial institutions, universities and accounting firms, the absolute majority of these data and information providers have firm disclosures regarding the validity of the information and numerical data provided. Furthermore, they are clearly stating that any duplication, redistribution or disclosure is prohibited by law and will result in prosecution. Therefore, besides running the risk of using data that I need special authorisation and licensing for distribution, there also exist some serious issues of validity. Due to the nature of the analysis performed using the vast data sets, and having in mind the straight forward approach of comparing and assessing the Euro Area with Cyprus and the Euro Area MFIs with the Cypriot banks, I used specific data sets as described in the previous section.

However, comparing, assessing and evaluating between a single Euro Area member state and Cyprus proved more precise and accurate, since the results were concentrated on a specific banking sector within a member state and not within a chaotic sample of more than 6,000 MFIs. It proved to be more detailed and certain issues required in depth analysis for verification. Moreover, the analysis performed on the research project regarding the EU averages was used as a benchmark in this Chapter, for comparing the Greek and Cypriot banking sectors.

In this Chapter I have explored the possibility of using disaggregate data with the focus on producing more relevant results to my stakeholders. The

data used for the analysis on this Chapter is obtained from the Bank of Greece and from the Annual reports of the 5 most major Greek banks. The Bank of Greece is the corresponding Central bank of Greece and reports to the ECB. The data sets from the Bank of Greece were up to a point compatible with the ECB and the ECB data sets, but in certain cases appeared in some cases inconsistent and lacked the detail of the ECB's data sets. Inconsistent data sets were strictly avoided for the purposes of my research project. Moreover, I found out that although each Central Bank uses the same methodology in producing and communicating data to the ECB, the presentation and the level of data that are broadly available differ substantially. For instance, while CCB and ECB provide data sets on the deposits maturity, Bank of Greece does not have the detail for comparative analysis on the maturity. However, using data from the Bank of Greece, I was able to pinpoint and make precise observations regarding the Greek banking sector, in respect to the Cypriot banks. Moving on further with the use of disaggregated data, I decided to enter the accounting data on interpreting facts and figures. In order to assess profitability ratios, cost ratios and efficiency ratios a simple table was constructed comprising of the major Greek and Cypriot banks. Although the sample was not representing 100,00% the two different banking sectors, because of the high concentration level I strongly believe that it proved adequate.

In the Chapter 9 a number of findings between the Cypriot and Greek banks are recorded. As the reader will find out, but more importantly as

the findings will illustrate, the results are more precise and meaningful to my stake holders.

As mentioned before, I have used disaggregate data to compare the Cypriot banking sector with a specific member state's banking sector. Taking into consideration the relevance and the importance for the Cypriot banks I used Greece as a member state of comparison. In this comparison and assessment I also used financial data from annual bank accounts. Although I could not contain the whole Greek banking sample for my comparison, I employed the 5 largest banks against the 3 largest Cypriot banks. Interestingly enough, aggregated data produced results that proved more 'tangible' to assessing the Greek banking sector to my stakeholders, rather than examining the whole broad Euro Area banking sector. Nevertheless, the assessment and comparison performed between the two specific banking sectors for two different member states follows the broader methodology of my research project. The use of aggregate data, like extracting data from annual reports from banking institutions, within the scope of the Euro Area is very hard to implement because of the vast number of the banking institutions in the Euro Area. It has proved however, that the comparison for specific member states and their associated banking sectors the use of aggregate data is essential for providing results that can lead to specific decisions within the scope of a bank's strategy.

3.7.4 Validity and Reliability/Dependability:

Reliability means consistency or dependability of findings. Using verified data from governmental official sources I believe that I achieved both factors in my findings. Numerical results from the selected sources are produced using the same statistical methodology in the European Union and in Cyprus as well, they do not vary because of characteristics of the measurement process or measurement instrument itself. In order to improve the reliability of the data, I conceptualize all constructs (Neuman, 2004). As an example, when I was examining the deposits in both areas, I was concerned in comparing the different time sub-categories before looking at the raw total numbers. Although the measure and comparison of deposits is indicating one and only one concept, in order to enhance the reliability of my data I also measured and compared single constructs.

Validity suggests truthfulness and refers to the match between a way a researcher conceptualizes the idea in a conceptual definition and a measure, (Neuman, 2004), sometimes the term is used to mean "true" or correct".

Neuman (2004, p 104) states that "when a researcher says that an indicator is valid, it is valid for a particular purpose and definition". For instance, when I compare the inflation rate in both economies the specific indicator is valid for measurement and comparison reasons. If I was to compare the inflation rate between the Euro Area and the US, I would take for example into consideration the purchasing rate parity and the exchange rate

between the US and the euro currencies. In that case my measurement validity would be non valid. Nevertheless, the tabulations regarding the comparison between the Cyprus and Euro Area Economies include the purchasing rate parity and the corresponding buying power per capita.

Since statistics and the associated issues that accompany them, such as their up to date availability, quality, compatibility, homogeneity and the demand for standardisation are steadily increasing, are becoming highly important and vital to the ECB's policy in shaping its current monetary affairs. The "Statistical Data and Metadata Exchange" (SDMX) is the benchmark of convergence between the Eurostat and member state's statistical service agencies/bureaus. The SDMX is the medium to ensure that useful data can be retrieved comprehensively and immediately. A number of world reputable organisations (Eurostat, European Central Bank, Organisation for Cooperation and Development, World Bank, International Monetary Fund, United Nations, Bank for International Settlements) are sponsoring the SDMX application and implementation.

However, since the reporting of data between the Statistical bureaus and the corresponding Central Banks is homogeneous, compatible and the methodology used is exactly the same it can be said that the validity of the data presented are at the highest standard. Furthermore and as mentioned in the previous section, all calculated and compared sets in Chapter 6, were double checked, verified and crystallised to produce the specific conclusion and findings of the research project.

3.7.5 Ethical Issues: In my line of work the use of a professional ethics code, ethics regulations and code of conduct from the Ministry of Economics, the Central Bank and the Cyprus Securities Commission are strictly followed. My sensitivity to ethical issues and concerns in addition to the developed strong moral code over my working experience has provided me with a solid background for my research project. Moreover, I adopted the British Ethical Research Association guidelines as my ethics code, (BERA, 2004).

Using data related to banking and financial institutions most of the times can be perceived as "sensitive. Essentially, my research project will deal with the accession of the Cyprus Economy into the Eurozone and how the pricing factor of the local banking institutions is affected. However, local Institutions that are public companies have the obligation to report their financial statements to their shareholders and to the public.

A careful measurement and study of their fiscal reports might reveal the level of "convergence" to the Euro Area banking counterparts, and vice versa. Bearing in mind however, that the data and the study will be released in the first quarter of 2009, the associated data will be nothing more than past statistics of financial figures. Moreover, issues of detriment do not exist since these institutions are participants in the research.

According to Remenyi et al (1998), how the research should be conducted is in greater concern in an ethical sense than of what is to be researched. Reading throughout the book I decided to strictly follow the suggested guidelines. There are three aspects of this concern:

1. The collection of evidence. The data collected did not involve any particular institution but the whole banking sector. Thus there were no cases of conflicts of interests between institutions. Furthermore, the electronic data access eliminated issues of involving other research participants. Therefore, matters like exploitation, informed consent, deception, guarantees for privacy, confidentiality and anonymity never reached the surface of my research project (Neuman, 2004). Although in the cases that I could not obtain the publicly available data from electronic sources, I was prepared with an agreement for the collection, use and presentation Bell (1999). This agreement however, was never needed in conducting my research since I did not encounter any problems in obtaining the data remotely through electronic sources

2. The processing of evidence. I used straightforward numerical and mathematical quantifications and comparative analysis of the Eurozone and Cypriot Economy and of the Banking sector in the Cyprus and in the Eurozone. A researcher should try to apply independent interest but as human nature kicks in

   The problem of analysing or even reading evidence subjectively after it has been written down (Remenyi et al, 1998, p 169).

My research project hadn't any sponsors, it was self-funded. As a consequence of this I did not have any "demands" in compromising my ethical or professional research standards. In addition, my findings were derived from the project study and there were never any preconditions associated with them (Neuman, 2004).

3. The use of the findings. The purpose of the research is to be published, help and prepare the local economy and banking sector into the new environment. Moreover, it can be used as a tool for future accessing economies and institutions into the Euro Area.

3.8 My Role in the Research:

A researcher would like to believe that his/her values are not affecting their research. Posting the same question to myself in the beginning of the design stage, I realized that the answer is not straight forward.

Since I am employed with the Bank of Cyprus Group, I am considered as an insider participant observer. Although as an employee for the Bank of Cyprus I carry the corporate culture of my organization, my research was more likely to intervene with my researcher status and my role to be conflicting. My position as the Head of Brokerage Dept. was not contradictory throughout my research process because I was intact from pricing policies, strategic management and decision making within the Bank of Cyprus group   Moreover, throughout the research I avoided

contact with the relevant departments that set the Bank of Cyprus Group policies and the only channel of communication that I left open was with my internal stakeholder, Mr. Chris Patsalides. Moreover, my position has no authority in matters of pricing and strategy.

The nature of the research is concerning the Cypriot banking sector and not the Bank of Cyprus in particular and that made matters simple and straight forward regarding my internal involvement with pricing or strategic issues.

During the design stage of my research project, Cyprus was a year off the accession to the Euro Area and the adoption of the euro currency, and at that time it was too early in the research process to have concrete data of how to act upon the imminent change. I am stating this because I feel that the data collected and analyzed lacked in time of actual implementation. if my research was conducted a couple of years ago and relative to some other member state before its accession to the Euro Area, I strongly believe that the associated data in relation to the local banking sector would be more extensive to my organization. Comprehending this issue however, made me more aware of the tabulation of data and the orientation of my findings to precisely the factors (level of loans and deposit, interest rates on loans and deposits) that can cause misinterpretation problems if not treated correctly. For instance, the cost of money has to be taken into account and measured accordingly in both economies. The cost of money however, as a benchmark index, was

different prior to 2007 and that factor was taken into consideration otherwise I would run into interpretation problems.

Considering the fact that my audience will primarily consist of Cypriot banking institutions that their operations are relatively new to the Euro Area or their operations will expand in the near future to the Euro Area, the purpose of the research study is to provide valuable information about the pricing of the banking sector in the Euro Area. Furthermore, the outcome of this research project is an executive business report exclusively oriented to executive officers that are in key positions to take decisions, which directly affect the future strategy of these organisations. My initial aim, which was maintained until the end of my project study, was to present and analyze the collected data as independently as possible from current journals and publications. Furthermore the literature review was conducted based on the "Goals of a Literature Review", (Neuman, 2004, p 68) for mapping purposes of covering as much of the subject as possible. This information combined with the banking institutions capital allocation on loan books and their liabilities on deposits will provide crucial information to adopt and prepare their operations in the Euro Area. Moreover, the project appeals to the Ministry of Finance and to Economic departments of Universities since the economic evaluation of the Cypriot economy involves only the pricing factor of banking Institutions. The research project can provide the foundation and the backbone of future research in other sectors as well.

Last but not least, I am also pointing the issue of reflexivity in this section since it has been one of my main considerations throughout the research process. Trying to comprehend the reflection style that I adopted during my research calendar and literature review, I realized that I had to step out of my perspective and take a look from another person's point of view of what I was actually working on and look as another person might. However, during my research project, my continuing efforts to understand my topic more completely and deeply inevitably involved the interrelationships between the assumptions, biases and perspectives first by being a bank employee and second by comparing the banking sector in Cyprus and the Euro Area. In the beginning of my research study, I wanted to study my topic in a meaningful way. Although I had some working based experience in the research methods, I did not choose the method of expertise – in my case surveys. Rather, I choose research methods that enabled me to exhaust my subject.

Adopting the voice of a reflexive researcher I have to admit that it has been a problem to me. According to Weber (2003, p 7)

> When they interpret data or text or statistical results, reflexive researchers recognize the tyranny of theory. They understand that they will be inclined to see empirical materials as supporting their theories. They will deliberately search out empirical materials, therefore, that disconfirm their theory. They will play the role of devil's advocate with their own theories

I do not claim that I have fulfilled this part in full. If I can claim an excuse for this I would say that is my lack of experience in doctorate level project

studies. I believe that is up to the reader to decide upon the kind of "domination voice" that is arising from the research project.

The next Chapter of the project is associated with the actual research study in the areas of the operational environment (the economies) of the Cypriot banks and the Euro Area MFIs. The evaluation of the two economies will reveal the characteristics of the economies which is essentially the framework of operation for the banking institutions. In Chapter 5 the banking structures of the Euro Area MFIs and the Cypriot banks is examined and compared and in Chapter 6 the actual pricing policy of the two banking sectors in the institutional sectors of household, non financial corporations and government is in focus. In Chapter 7, an outline of the findings, conclusions and recommendations of the whole project research is presented.

CHAPTER 4

OVERVIEW OF THE CYPRUS AND EURO AREA ECONOMIES

4.1 Introduction:

This Chapter examines the Cypriot and Euro Area economies, in order to
assess the effects on the pricing factor of a banking institution.

Since the project study involves the operational environment (the
economies of the banking sectors) assessing the effects on the pricing
factor of a banking institution, this Chapter examines the Cypriot and Euro
Area economies.

Although, in this section the banking sector is not studied at all, the two
economic Areas and their main characteristics are assessed. Even
though, one could argue that the sizes of the two economies are unequal,
the same exists for the banking sector as well. The analogies are the
same for the economies and the banking sectors. Although this Chapter
could deepen further in terms of information and detail, it is necessary to
have a spherical overview for both economies, in order to comprehend the
existing environment of the Cyprus economy and furthermore to assess
the opportunities and weakness of the broader Euro Area economy. In this
Chapter the Euro Area and the Cyprus economy are discussed and the
main characteristics are evaluated. The assessment of both economies is
deemed compulsory because their main characteristics and irregularities

constitute the operation and business development of the banks within the Euro Area, that eventually shape their pricing policy.

Although Cyprus is a member of the European Union, the new environment of operation for the Cyprus Economy since 1/1/08, is the Euro Area (discussed extensively later on in this Chapter). Thus, a similar approach to the analysis of the Cypriot and Euro Area economies will be deployed. Also the extensive use of relevant comparative statistical and economic data for the purposes of this analysis is deemed necessary, as outlined in my research proposal and in the previous Chapter.

This Chapter mainly focuses on the operational environment of the Euro Area MFIs and the Cypriot Banks. The next Chapter will deal with the banking structures of Cyprus and the Euro Area and Chapter 6 will put the deposits and loans of both sectors under perspective.

The data used for the purposes of this Chapter is extracted from official sources and the tables and graphs used are created for the purposes of the analysis.

4.2 The Cyprus Economy:

4.2.1 Overview:

Cyprus is classified among the high-income countries, with a per capita income of €19.170 estimated for 2007 (Eurostat, 2008), it is classified amongst the advanced economies of the world by the International

Monetary Fund. It has a standard of living that is higher than some other European Union member-states and the performance of the economy compares favourably with that of most other European Union and Euro Area members. According the latest report from the World Bank, Cyprus is considered a high income country and is ranked 25th worldwide sorted by GDP at Purchasing Power Parity (PPP) per capita, as shown in Table 4.1. More specifically, GDP is the value of all final goods and services produced within a given year divided by the average population for the same year, and PPP is the amount of adjustment needed on the exchange rate between countries in order for the exchange to be equivalent to each currency's purchasing power. The following Table is indicative of the main economic indicators regarding the Cyprus economy. The presented data of Table 4.1 will be discussed extensively throughout this section.

Table 4.1 Cyprus Major Economic Indicators

In Euros (€)	2000	2001	2002	2003	2004	2005	2006	2007
GDP at current market prices (€m)	9.883,15	10.627,88	10.979,66	11.761,16	12.653,58	13.462,26	14.435,20	15.565,56
GDP (% annual real growth)	5,00%	4,00%	2,10%	1,90%	4,20%	3,90%	4,10%	4,40%
Average Population (in thousands)	694,00	701,50	710,30	722,80	739,80	757,80	772,60	787,60
GDP per capita (PPS)	14.241	15.150	15.458	16.272	17.104	17.765	18.684	19.763
Inflation CPI (base 2005)	4,10%	2,00%	2,80%	4,10%	2,30%	2,60%	2,50%	2,40%
Unemployment Rate	5,00%	4,00%	3,30%	4,10%	4,70%	5,30%	4,50%	3,90%
Fiscal Deficit (% of GDP)	-2,30%	-2,20%	-4,40%	-6,50%	-4,10%	-2,40%	-1,20%	3,30%
Total Public Debt)(€m)	5.813,50	6.452,70	7.096,30	8.108,40	8.882,60	9.299,70	9.330,80	9.261,30
Total Public Debt (%of GDP)	58,80%	60,70%	64,60%	68,90%	70,20%	69,10%	64,80%	59,80%
Imports to EU (cif) (€ m)	2.168,04	2.276,71	2.320,28	2.274,49	3.020,98	3.382,90	3.694,30	4.336,40
Exports to EU (fob) (€ m)	388,54	429,71	462,01	475,85	552,22	710,61	566,57	606,72
Total Imports (€ m)	4.104,40	4.320,54	4.248,61	3.936,62	4.577,86	5.069,08	5.513,49	6.353,40
Total Exports (€ m)	1.011,32	1.073,00	873,61	814,66	936,31	1.228,83	1.111,79	1.082,74
Trade balance (€m)	-3.093,08	-3.247,54	-3.375,00	-3.121,96	-3.641,54	-3.840,25	-4.401,70	-5.270,66
Exchange rates £ to €	0,57369	0,57504	0,57316	0,58637	0,58	0,5735	0,5782	0,585274
Exchange rates to € (% change)	-0,52%	0,24%	-0,33%	2,30%	-1,09%	-1,12%	0,82%	1,22%
Money Supply M2 (€m)	11.161,48	12.647,99	13.950,85	14.512,94	15.328,64	16.889,20	19.397,18	23.380,36
M2 growth %	9,00%	13,32%	10,30%	4,03%	5,62%	10,18%	14,85%	20,53%

Source: Statistical Service of Cyprus, Central Bank of Cyprus 2008

Looking at the previous 8 year period as illustrated above, overall the Cyprus economy has achieved an average of 3,60% annual GDP growth, inflation was kept at an average level of 2,50% and unemployment was around 4,62% (Eurostat, 2008). Although the numbers by themselves are impressive, the per capita income in PPP (purchasing power parity) standards is at 92,50% of the 2007 European Union average, which shows that Cyprus is lagging on the real income compared to the whole of the European Union. A similar Table (Table 4.5) with the main economic indicators for the Euro Area is displayed in later sections of the Chapter. Comparing the PPP standards for the Euro Area – 15 member states – the bar is set higher at an average of 109 (see Table 4.5). As mentioned in the beginning of this section and as Table 4.1 reveals that the Cyprus

GDP per capita is at €19.170. Setting the Euro Area average GDP per capita as benchmark, Cyprus appears to be at at 88,50% of the Euro Area average. Therefore, there is considerable room for improvement and advancement in terms of European Union and/or Euro Area averages in terms of PPP standards.

The above Table is not only indicative of the general buying power of Cypriot citizens, but it will also be utilised in other sections of this Chapter. As mentioned above data on Table 4.1 that is related to fiscal and government debt, trade balance, money supply and exchange rates will be discussed extensively in the following sections. For instance the government and fiscal debt are put under perspective in section 4.2.4, the trade balance in section 4.2.3 and the money supply in section 4.3.

4.2.2 Economic Activity:

In the past 10 years, the economy has shifted from agriculture and light manufacturing towards the services and financial sectors (Mamouneas et al, 2005). The restructuring of the Cyprus economy can be verified through official data. Table 4.2 below, demonstrates the contribution of real growth of gross value added by each sector of the economy. The Table was constructed through the Cyprus Statistical Service data that refer to the contributing sectors of the Cypriot economy. Throughout the years, it can be seen that the contribution of the agriculture sector has been deteriorating and the manufacturing sector is on a steady decline. Furthermore, the Table reveals that the economy is shifting its direction to

the services sector and more particularly in the financial and business sector. Moreover, there was a slight increase in the contribution of the construction sector.

Table 4.2 Contribution of Real Growth of Gross Value Added

% of Distribution	1996-1999	2000	2001	2002	2003	2004	2005	2006	2007
Agriculture, hunting and forestry Fishing	4,33%	3,60%	3,75%	3,74%	3,41%	3,00%	2,79%	2,61%	2,54%
Mining and quarrying Manufacturing Electricity, gas and water supply	13,30%	12,25%	11,83%	11,88%	11,75%	11,74%	11,27%	10,77%	10,48%
Construction	7,85%	6,83%	6,91%	7,35%	7,61%	7,96%	8,20%	8,35%	8,40%
Wholesale and retail trade Hotels and restaurants Transport, storage and communication	30,25%	31,16%	31,25%	29,84%	27,87%	28,23%	27,92%	27,47%	27,66%
Financial intermediation Real estate, renting and business activities	22,51%	23,83%	23,98%	23,97%	23,98%	24,43%	25,23%	26,36%	27,02%
Public administration and defence Education Health and social work Other community social and personal services Private households with employed persons	21,77%	22,33%	22,28%	23,22%	25,37%	24,65%	24,60%	24,45%	23,91%

Source: Cyprus Statistical Service (last updated 31/7/08)

The actual restructuring of the Cypriot economy can also be concluded by studying the actual percentage breakdown of the actively employed population. Table 4.3 that follows is an attempt to cross check and verify the result of the actual figures as presented in Table 4.2. The contribution shift of the different economic sectors to the GDP, has also resulted in the shift of the active employed population. The next Table indicates the percentage breakdown of the active employed population.

Table 4.3 Percentage Breakdown of the Active Employed Population

% of active employed population	1995-2000	2004	2007
Agriculture, hunting and forestry Fishing	9,17%	7,32%	7,94%
Mining and quarrying Manufacturing Electricity, gas and water supply	14,43%	11,22%	10,43%
Construction	9,11%	10,14%	10,06%
Wholesale and retail trade Hotels and restaurants Transport, storage and communication	34,71%	34,09%	34,46%
Financial intermediation Real estate, renting and business activities	9,46%	10,36%	10,92%
Public administration and defence Education Health and social work Other community social and personal services Private households with employed persons	23,13%	26,87%	26,17%

Source: Cyprus Statistical Service (last updated 31/7/08)

Although the data on hand cover the preliminary results of 2007, the trend regarding the active employed population to the various sectors of the economy confirms the conclusions derived from Table 4.2. The actual number of employed persons in 1995 was 305,000 and by the end of 2007 it was 393,000 (preliminary data) - an increase of 28,85% to the total population. The first column shows the actively employed population

percentage by sector and for the period 1995-2000. The next columns just show snapshots in time following the same data distribution and percentage population. As indicated from Table 4.3, the major contributing sectors of the economy are the financial services, construction and service (tourism) sectors. These sectors are not only increasingly contributing to the GDP, but the shift of the working population to these sectors is imminent. Moreover, a more thorough examination at the sub categories of the sectors reveals that the education, health and social work sectors are posting a steady increase in the employed population throughout the period of study.

As the data on Tables 4.2 and 4.3 reveal, the restructuring of the Cyprus economy is proceeding at a very slow pace. Nevertheless, a sector that is unique for the Cypriot economy is the tourist sector. The tourist sector has been the driving force of the economic development on the island shortly after the Turkish invasion. The tourist sector is worth mentioning since it was contributing to more than 20,00% of its revenues to the GDP up until 2001 and, as mentioned in section 4.2.3 that follows, the sector was a major contributor to the capital inflow on the trade balance. The major data regarding the Cypriot tourist sector are outlined in Table 4.4. Essentially the tourist arrivals, the income from the sector and its percentage contribution to the GDP are the most vital numbers to monitor. Although the Table is consistent for the last 8 years, I have also included the 1995 year in order to tabulate a longer term in time.

Table 4.4 The Tourist Sector

	1995	2000	2001	2002	2003	2004	2005	2006	2007
Total tourist arrivals (in '000s)	2.100	2.686	2.697	2.418	2.303	2.349	2.470	2.400	2.416
% change in tourist arrivals	n/a	10,4	0,4	-10,3	-4,8	2	5,2	-2,8	0,6
Income from tourism (£Cyp000s)	810	1.194	1.271	1.132	1.015	982	1.005	1.027	1.085
% change in income	n/a	16,5	6,5	-11	-10,4	-3,3	2,4	2,1	5,6
Tourism revenue as % of GDP	19,5	21	20,8	17,8	14,9	13,6	13,1	12,3	12,1

Source: Cyprus Statistical Service (last updated 31/1/08)

In particular, it is outlined that the number of tourist arrivals was correlated with the GDP growth, especially in the early 1990's, where the recessions of 1991 and 1993 were caused by correspondingly steep declines. Furthermore, the 1995 and 1996 economic slowdown coincided with absolute stagnation in the tourist sector. Consequently, the 1997 - 2000 recovery was led by soaring numbers in tourist arrivals. This pattern underlines the economy's vulnerability to swings in tourist arrivals (for example to economic and political conditions in Cyprus, Western Europe, and the Middle East) and the need to restructure the economy. Declining competitiveness in tourism and especially in manufacturing appears as a drag on growth until structural changes are effected (Theophanous et al, 2006).

While the tourist sector plays a vital role in the economy, its sensitivity to the GDP contribution has been declining over the last 6 years (Theophanous et al, 2006). Hence, when economic activity accelerated in 2004 and 2005, it continued to decline in the ratio of revenue to GDP and by the end of 2007 contributed just above 12,00% to the island's GDP. Nevertheless, the sustained numbers of tourist arrivals and the associated

income over the last five years, indicate that the sector is still a vital contributor to the Cypriot economy.

4.2.3 Trade Balance:

Trade is crucial to the Cypriot economy, the island is not self-sufficient in food and has few natural resources and the trade deficit continues to grow. In an open economy like Cyprus', where imports of goods and services constitute a sizeable part of the GDP, excess demand is quickly translated into imports, which creates added pressure on the balance of payments.

In the past, prior to the period in scope, the Cyprus Economy achieved sustained high growth with little pressure on the balance of payments, and experienced only a modest inflow of external capital. This was achieved by a rapid increase in exports of goods and services and a high savings ratio. It is noted that during that period, the tourism sector was contributing more than 20,00% to the island's GDP. It is indicative from Table 4.1 that exports of services increased at a much higher rate than the export of goods, and receipts from tourism have become the main element of the surplus on the services balance. Up to 1995, the strong performance of exports of goods and services kept the current account deficit at low levels, which was more than covered by capital inflows. These trends reversed after 1995, following declining tourist activity, deteriorating fiscal imbalances and falling savings ratio (Theophanous et al, 2006). For the period under consideration, the trade balance is clearly

on an upward trend and the overall exports of the Island as a percentage to the imports are showing a steady decline. Considering the fact that the tourism sector appears relatively constant to its contribution to the GDP, the agriculture sector is deteriorating and the manufacturing on the island is also on a downward trend, the existing trend is not expected to change. Cyprus must import fuels, most raw materials, heavy machinery, and transportation equipment. However, looking at the specific period, total trade with the European Union is at 62,00%, whilst the average of the period is at 59,00%, which implies an upward trend in the trading partnership between Cyprus and the European Union.

4.2.4 Fiscal Deficit and Public Debt:

Fiscal deficit and Total Public debt have been steadily declining (Haroutunian et al, 2005) towards the accession to the Eurozone and is expected to be fully in line with the Maastricht criteria within 2008. By 2010, the Cyprus government is hoping to be well below the Maastricht criteria (ECB, 2007).

The ongoing consolidation of the public finances has led to a significant reduction of the fiscal deficit and a reversal since 2004 of the previously rising trend in the public debt burden, as indicated in Table 4.1. The general government deficit narrowed to 1,20% of GDP in 2006, from a peak of 6,50% of GDP in 2003, and for 2007 a surplus of 3,30% was reported (Statistical Service of Cyprus, 2008). This compares with an average deficit for the EU as a whole in 2007 of 0,90% (Eurostat, 2008).

The main reason for his achievement is the small size of the Cyprus economy that makes it more flexible and adaptive. Cyprus' fiscal consolidation was partly effected in the initial years by one-off measures including a tax amnesty, which generated revenues equivalent to 0,70% of GDP in 2004 and 0,90% of GDP in 2005.

Hence, the structural fiscal balance (the cyclically adjusted fiscal balance net of one-off measures) has continued to strengthen, from a deficit of 4,10% of GDP in 2004 to 1,20% of GDP in 2006 and a surplus of 3,30% in 2007 (Statistical Service of Cyprus, 2008). Structural fiscal reforms in recent years include a broadening of the verified added tax (VAT) revenue base in 2004 and an increase of the retirement age for civil servants from 60 to 63 in 2005, although even at 63 the retirement age remains relatively low compared to other EU countries. More recently, fiscal consolidation has been driven by improved tax administration and collection aided by the significant pick-up in real-estate transactions as well as restrained growth in the public sector wage bill. Moreover, future developments point to a planned implementation of a Medium-Term Budgetary Framework, which should help to rationalise and control public expenditure.

The outlook for the public finances is clearly subject to risks, the most significant of which is the rate of economic growth and the trajectory of oil prices (Christofides et al, 2006). Furthermore, the political cycle could exert upward pressure on expenditure, taking into account the presidential candidate's promises for the upcoming presidential elections in 2008.

There may be a temptation to loosen fiscal discipline following the adoption of the euro currency. Since Cyprus' accession to the European Union in 2004, the fulfilment of the Maastricht criteria and the gradual convergence to the Euro Area economy has been the main motivation for tightening the public finances. Furthermore, Cyprus will still be required to adhere to the European Unions' Stability and Growth Pact. The Stability and Growth Pact consists of two EU Council Regulations, on 'the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies' and on 'speeding up and clarifying the implementation of the excessive deficit procedure', and of a European Council Resolution on the Stability and Growth Pact adopted at the Amsterdam summit on 17 June 1997 (Treaty on European Union, 1992). In particular, member states have to balance their budgetary objectives regardless of any cyclical market fluctuations, in order to keep government debt at below the reference value of 3,00% of GDP.

Countries participating in the EMU, and in accordance with the requirements of the Stability and Growth Pact, have to agree to an stability programme annually. Non-participating member states have to agree to convergence programmes annually.

It will also be a challenge to maintain the long-term viability of the public finances in the face of mounting age-related expenditure pressures.

The European Commission (2006) judges Cyprus to be one of the six EU member states that face a "high" risk in regard to the long-term sustainability of public finances in view of the budgetary impact of an ageing population.

Nevertheless, given the relatively robust rate of economic growth and the projected maintenance of a primary fiscal surplus, it is expected that the government's gross debt burden will continue to ease.   As Table 4.1 reveals, the general government's gross direct debt declined to 65,00% of GDP at end-2006 and to 59,80% at end-2007, from a peak of 70,00% of GDP at end-2004, although this continues to exceed the EU average (62,00% at end-2006, 60,40% at end-2007) and is the third highest level among the New Member States (NMS) after Malta and Hungary (Eurostat, 2008).   It should be noted that the net debt of the Cyprus government is considerably lower than its gross debt given the government's sinking fund, which amounted to around 6,00% of GDP in April 2007.   This fund, held at the Central Bank is used to repay long-term loans issued domestically prior to 2003. The fund will be gradually run down, with the bulk of it exhausted by 2008, a process that will accelerate the decline in the government's gross debt stock, which the European Commission projects will fall below 55,00% of GDP in 2008.

The structure of the general government's direct debt is relatively benign, with only around 20,00% denominated in foreign currencies (mostly euros) and around 20,00% in short-term maturities. The general government's

guaranteed debt is moderate, amounting to around 5,00% of GDP, and is distributed among several public enterprises, including the Electricity Authority, the Sewerage Boards and the Cyprus Development Bank. On a more cautious note, the government's contingent liabilities arising from the financial sector are likely to be higher than in many other EU states, given the large size of the banking sector in Cyprus relative to GDP, the comparatively high level of non-performing loans, and some weaknesses in financial sector supervision, particularly in regards to the cooperative banks, which account for around 25,00% of total bank deposits.

As a reminder to the reader, the Euro Area MFIs and the Cypriot banks, along with the corresponding deposit and loan levels, will be thoroughly assessed in the next Chapter.

4.3 Money Supply, Interest and Exchange Rates in Cyprus:

Money supply has been steadily increasing over the last 5 years (see Table 4.1) and is in check with the steady exchange rate of the Cyprus pound to the Euro which has kept inflation relatively low. The banking sector plays a very important role in the economy, since its shy expansion to Greece, South Eastern Europe, Russia and Ukraine. In section 4.17, a detailed discussion regarding the exchange rate fluctuation of the Cyprus pound to the euro currency is outlined, as the Cyprus pound was facing imminent devaluation because of rapid outflows for the first four months of 2004. Interestingly enough, the Cyprus Central Bank managed to prioritise the Cyprus pound fixation to the euro currency by adjusting the

level of the interest rates. Through this intervention, the Cyprus pound "locked" at an unsurprising exchange rate to the euro (the same as the initial unit link in the beginning of 1999 with the European Central Bank), keeping stable conditions in the economy and avoiding devaluation scenarios for the local currency. The following section describes in detail the situation that a number of factors brought the Cyprus pound on the verge of devaluation during the period of 2004 and 2005, right after the island's accession to the European Union. Nevertheless, in Chapter 6, a detailed deposit and lending rate assessment is performed relating to the Cypriot economy before accession to the Euro Area. Evidently, the assessment uses the existing Euro Area environment as at 31/12/07.

4.3.1 The Cyprus Pound Under Attack:

In the beginning of 2004, with the looming accession of Cyprus into the European Union on May 1st, 2004, the economy of Cyprus had started to feel the pressure of strong outflows driven by the political insecurity following the rejection of the Annan plan (which was the result of long negotiations regarding the solution of the Cyprus problem), as well as the intense speculation of a possible devaluation of the Cyprus Pound ahead of the accession date. The local currency had by then enjoyed more than a decade of exchange rate stability with a small fluctuation around the central parity exchange rate of 1.7086 Euro to the Pound that had never exceeded a 2,25% variation around this parity value, as indicated in Table 4.1.

The preceding year, 2003, had ended with a net outflow of £153,00 million Cyprus pounds (€261,00 million) which was very substantial for the Cyprus economy. As a result, the £CyP/€ (Cyprus pound to euro) exchange rate had fallen by 1,98% from 1.7452 to 1.7106. The following year, 2004, had begun with the trend of outflows continuing unabated. In the first four months alone of 2004, the Cyprus economy had experienced another £162,00 million Cyprus pounds (€277,00 million) of outflows, surpassing the total of 2003 in just the first four months.

Responding to this, the Central Bank of Cyprus unexpectedly raised interest rates by a whole 1,00% to 3,50% - 5,50%, on April 30th 2004, a day before the accession date, in an effort to minimise or even reverse the trend of capital outflows. Sure enough, the rest of 2004 went by with a strong reversal of the outflow trend and during the rest of the year the economy experienced an inflow of £128,00 million Cyprus pounds (€218,70 million), thus resulting to a small net outflow for the whole of 2004 of £34,00 million Cyprus pounds (€58,10 million). Indeed, the Cyprus Pound managed even a small gain in 2004 against the Euro by 0,95% from 1.7106 to 1.7268. The Central Bank of Cyprus had later – March 25, 2005 - been praised by the International Monetary Fund for its efficient handling of monetary and exchange rate policy and in specific of its action on April 30th, 2004.

It was only later in 2005 that the Central Bank started to reverse its latest move in the central interest rates. The initial attempt was in February of

2005 by firstly reducing rates by 0,25% and then in May and June of 2005, by further reductions of 0,50% each time, setting the central interest rates to 2,25% - 4,25%. During the second and third reduction in May and June of 2005, the Cyprus Pound was already in the ERM II. Moreover, it was close to its highest exchange levels against the euro. Nevertheless, the Central Bank was driven by the effort to converge Cyprus's interest rates closer to the European ones. Factors such as the much improved budget deficit and the fast increasing lending of Cypriot nationals in foreign currency of lower interest rates were key elements that had to be taken into account, for the swift decisions of the Central Bank.

4.4 Meeting the Maastricht Criteria – The Case of Cyprus:

In this section an outline of Cyprus's convergence to the Euro Area economy is taking place. All member states that joined the Euro Area and consequently adopted the Euro as their currency were under the prerequisite of adopting a series of "converging" criteria. The criteria are set in order to predetermine the homogeneity and stability of the economic and legal aspects of the monetary union. The convergence criteria (Maastricht criteria) are the final implementation stage of the European Economic and Monetary Union of the member states to adopt the euro as their currency. In order to maintain the price and fiscal stability of the monetary union, member states need to fulfil the Maastricht criteria and "catch up" in terms of institutional and structural reform with other member states that are already operating in the Euro Area. Price and fiscal

stability within the Euro Area is maintained under the umbrella of economic uniformity. According to Afxentiou (2000, p 248),

> If there is some relation between convergence and the Maastricht criteria, it must be in the contribution of these criteria to the social capability factor in particular or perhaps in the beneficial effects of the spread of ideas during general economic growth. Such an environment satisfies the main conditions for an optimum currency area.

The Maastricht criteria contain the following five conditions that each member state has to meet before adopting the euro currency:

- A government budget deficit not in excess of 3 percent of each country's GDP

  By the end of 2006, the Cyprus Economy had reported €14,435 mil. Gross Domestic Product, while the Fiscal deficit for the same period stood at €172,60 mil. (Cyprus Statistical Service, Cyprus Central Bank, 2007). The ratio of the fiscal deficit to the GDP stood at 1,20%, within the Maastricht criteria.

- An inflation rate no more than 1.5 percentage points above the average of the three lowest inflation member states in the European Union

  The following Table illustrates visually the Maastricht inflation requirement. Over the reference period, 2006, the 12 month average HICP inflation rate for the Cyprus economy was 2,50% well below the

reference value of 3,00% for the criterion on price stability (also see Table 4.1). As indicated, Cyprus fulfilled this requirement.

Table 4.5 Maastricht Criteria Inflation Requirement (Annual % Changes)

HICP Inflation	2006
Cyprus	2.5
Euro Area	2.2
Reference value	3.0

Source: European and Cyprus Central Banks (2007)

The reference value is the unweighted arithmetic average of the annual percentage changes in the HICP for Finland, Poland and Sweden plus 1.5 percentage points.

- <u>Nominal long-term interest rates not exceeding by more than 2 percentage points of the year preceding the examination entry to the EMU</u>

  Table 4.6 shows the specific Maastricht requirement. The basis of the calculation for the period is the non-weighted arithmetic average of the interest rate levels in Poland, Finland and Sweden plus 2 percentage points. The Cyprus long term interest rate represents the 10 year government bond. The Euro Area average is included for informative reasons.

Table 4.6 Maastricht Criteria Interest Rate Requirement

Long term Interest rates	2006
Cyprus (%)	4,26
Euro Area (%)	3,90
Reference value (%)	6,40

Source: European and Cyprus Central Banks (2007)

Cyprus was clearly below the Euro Area reference % value and it fulfilled the specific requirement.

- <u>No exchange rate realignment for at least two years</u>

National currency must not be devalued for a minimum period of two years whilst at the Exchange Rate Mechanism (ERM).

Graph 4.1 shows the exchange rate between the euro currency and the Cyprus pound from 2001 up to the end of 2007. Furthermore, Table 4.1 in the beginning of the section, is revealing the exchange rates of the Cyprus pound to the euro. The aim of the graphical representation is to show visually the percentage fluctuation of the specific exchange rate.

Graph 4.1 Cyprus Pound Vs Euro Exchange Rate
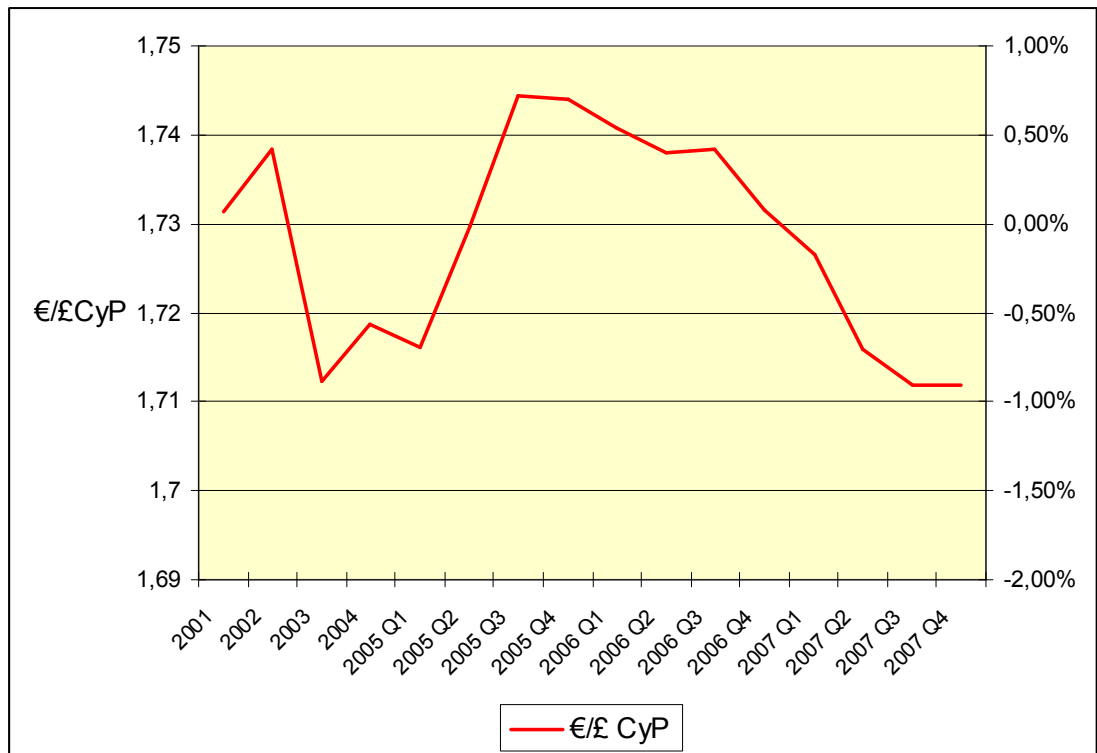
Source: Central Bank of Cyprus (2008)

As indicated from the Graph above, the Cyprus pound was stable, and fluctuated within the narrow bands of the +/- 2,25% deviation of the ERM requirement.

Since the 2nd of May 2005, the Cyprus pound has been participating in the ERM II. The stable and narrow exchange rate movement of the Cypriot pound to the Euro, as indicated above, not only for the period under scope but also since 2001 has resulted in the specific rate set of 0.585274 pounds per euro. Although, the fluctuation band of the exchange rate fixation is set at +/- 15,00% it was proven unnecessary to proceed with any additional exchange rate fixation, (Source: Central Bank of Cyprus, 2006).

- A gross debt to GDP ratio that does not exceed 60 percent

Ratio to GDP must not be in excess of 60,00% at the end of the financial year preceding entry to the EMU.

The government debt stood at €9,261 mil (Cyprus Statistical Service, 2007). The ratio of 59,80% was in line with the government debt requirement.

With regard to the prospects of countries with a public debt ratio clearly above 60,00% of GDP, achieving a reduction to the reference value is a prerequisite, since by the time of assessing the gross debt it was higher than the 60,00% benchmark.

4.5 Highlights of the Cyprus Economy as at 31/12/2007:

The review on the Cyprus economy has shown that the Cyprus economy, despite its dependence in the tourist sector, has managed to restructure its economy while it kept growing year after year. Finally, the Cypriot economy satisfied the Maastricht criteria, as outlined in this section. Aligned with the Maastricht criteria, Cyprus joined the common currency market, the Euro Area as at 1/1/08. The section regarding the Cyprus economy is summarised in the following bullet points:

- Cyprus' standard of living is compared favourably to other member states, but is still below Euro Area averages.

- Over the last 5 years the economy has achieved an average of 3,60% annual GDP growth, inflation maintained at an average level of 2,50% and unemployment was around 4,62%.

- Fiscal Deficit and Public debt aligned with the Maastricht Criteria just before accession time schedule, 31/12/07.

- Cyprus is vulnerable to economic and political conditions since its economy and foreign policy is linked to the Western Europe and the Middle East.

- Cyprus is solely dependant on imported energy/oil and thus making it vulnerable to energy prices.

- The balance of trade is deteriorating, the island is heavily dependant on imports which creates added pressure on the balance of payments. However, the trade with the European Union is on a positive trend and growing fast.

- During the last ten years the economy has shifted from the tourism sector to primarily the construction and financial services sector, including banking. The agriculture sector has been deteriorating.

- The island is faced with an ageing population problem. There is imminent need for reform since the demographic change will have considerable consequences for economic growth. Furthermore the long-term sustainability of public finances is in jeopardy since ageing population also means rising expenditures on public pensions, health care and care for the elderly. Growing imbalances risk limiting future growth potential and income generation.

4.6 The Eurozone Economy:

The Eurozone or the Euro Area consists of 15 member states and it contributes 72,50% to the European Union's GDP (Eurostat, 2008). The Euro Area contributes 16,10% to the world GDP and is the world's largest economy after that of the United States (ECB, 2007). Table 4.7 is indicative of the major economic indices regarding the Eurozone and is constructed similarly to Table 4.1 for the Cyprus economy.

Following the same approach as the analysis of the Cypriot economy the Table 4.7 consists of key economic characteristics and figures regarding the Euro Area economy. The Euro Area GDP reached €8,864 trillion as the real growth of the eight year period under scope posted an average of 2,09% growth per year. The inflation rate remains, relatively stable and close to the targeted 2,00%, which is the primary "price stability" objective as described on Chapter 2 under the Eurosystem section. The other main economic characteristics will be discussed thoroughly in this Chapter.

Table 4.7 Major Economic Indicators of the Euro Area Economy

		2000	2001	2002	2003	2004	2005	2006	2007
GDP	**€ trillion**	6.438	6.871	7.097	7.178	7.469	7.809	8.217	8.722
GDP (real growth)	**% change**	3,90	1,90	0,90	0,80	2,10	1,70	2,80	2,60
GDP per capita	**(€'000s)**	21.900	22.400	23.000	23.100	23.900	24.800	26.000	27.300
GDP per capita (PPS)	**EU 27=100**	115	113,4	112,5	111,7	110,6	110,7	110,2	109,8
Inflation Rate	**% change**	2,10	2,30	2,20	2,10	2,10	2,20	2,20	2,10
M3 growth	**% change**	4,10	8,00	6,90	7,10	6,60	7,40	10,00	11,50
Unemployment	**%**	8,20	7,80	8,20	8,70	8,80	8,60	8,20	7,20
Fiscal Deficit	**% of GDP**	0,10	-1,80	-2,60	-3,10	-2,90	-2,60	-1,30	-0,60
Total Public Debt	**% of GDP**	68,70	68,30	68,00	69,20	69,60	70,20	68,60	66,60
Trade Balance	**€ billion**	n/a	51,3	100,2	72,8	72,3	10,9	-12,5	26,7
Imports - cif	**€ billion**	n/a	1.063,60	1.085,70	1.057,20	1.147,30	1.238,30	1.384,90	1.501,30
Exports - fob	**€ billion**	n/a	1.012,30	985,4	984,4	1.075,10	1.227,40	1.397,40	1.474,60
Exch. Rates to the $	**€**	0,9427	0,8895	1,0492	1,2595	1,3555	1,185	1,32	1,459
Exch. Rates to the £Stg	**€**	0,63	0,611	0,6517	0,7058	0,7066	0,6877	0,6739	0,735
Exch. Rates to the ¥	**€**	107,74	117,14	124,62	135	139,1	139,48	157,13	163

Sources: Eurostat and ECB (2008)

As from 1/1/08, 15 Member States of the European Union use the euro as their currency. The Area in which the euro currency is circulating is referred to as the "Eurozone" or "Euro Area":

Graph 4.2 The Euro Area Map and Member States

- Austria
- Belgium
- Cyprus
- Finland
- France
- Germany
- Greece
- Ireland
- Italy
- Luxembourg
- Malta
- The Netherlands
- Portugal
- Slovenia
- Spain

Non-participating: Bulgaria, Czech Republic, Denmark, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia, Sweden and the United Kingdom are European Union Member States but do not currently use the single European currency.

The euro is the single currency for over 320 million Europeans and it directly affects close to 500 million people worldwide. With more than €610,00 billion in circulation as of December 2006 (equivalent to US$802,00 billion at the exchange rates at the time), the euro is the currency with the highest combined value of cash in circulation in the world, having surpassed the US dollar (ECB, 2008).

In order to have a spherical comprehension of the Euro Area in its entirety, it is deemed necessary to glance at the member states and their economies that comprise it. The following Table tabulates the main economic indicators of the European Union and the Euro Area member states and is sorted by their GDP as at 31/12/2007:

Table 4.8 The European Economy by Member States

Member State	GDP (€mil)	GDP % of EU	GDP Real % growth	GDP per capita in PPS (€)	Public Debt % of GDP	Deficit % of GDP	Inflation % Annual	Unempl % (as at 31/12/07)
European Union	*12.339.731*	100,00%	2,90	24.900	58,70	-0,90	2,30	6,80
Eurozone	**8.722.829**	**72,82%**	**2,60**	**27.300**	**66,60**	**-0,60**	**2,10**	**7,30**
Germany	2.308.953	18,98%	2,50	28.100	65,00	0,00	2,30	7,90
UK	1.771.246	15,17%	3,00	29.100	44,20	-2,80	2,30	5,10
France	1.754.188	14,33%	2,20	27.600	64,20	-2,70	1,60	7,70
Italy	1.491.887	12,33%	1,50	25.200	104,00	-1,90	2,00	6,30
Spain	1.190.020	9,77%	3.80	26.500	36,20	2,20	2,80	8,80
Netherlands	538.616	4,36%	3,50	32.900	45,40	0,40	1,60	2,90
Sweden	286.230	4,24%	2,70	31.300	40,40	3,60	1,70	5,90
Belgium	314.946	2,63%	2,80	29.700	84,90	-0,20	1,80	7,00
Poland	508.657	2,26%	6,60	13.300	44,90	-2,00	2,60	8,30
Austria	262.550	2,17%	3,10	31.600	59,10	-0,50	2,20	4,00
Greece	270.296	2,23%	4,00	24.100	94,50	-2,80	3,00	8,00
Denmark	165.510	1,78%	1,60	30.300	26,20	4,90	1,70	3,30
Ireland	161.810	1,72%	6,00	37.100	25,40	0,30	2,90	4,70
Finland	153.176	1,60%	4,50	29.000	35,40	5,30	1,60	6,50
Portugal	196.863	1,41%	1,90	18.600	63,60	-2,60	2,40	7,70
Czech Republic	208.157	1,30%	6,00	20.200	28,90	-1,00	3,00	4,70
Romania	217.012	1,29%	6,00	10.100	12,90	-2,60	4,90	6,10
Hungary	158.387	1,28%	1,10	15.800	65,80	-5,00	7,90	7,80
Slovakia	91.821	0,75%	10,40	17.000	29,40	-1,90	1,90	10,50
Luxembourg	33.050	0,63%	5,20	68.900	6,80	2,90	2,70	4,00
Slovenia	45.659	0,41%	6,80	22.600	24,10	-0,10	3,80	4,60
Bulgaria	72.832	0,36%	6,20	9.500	18,20	0,10	7,60	6,10
Lithuania	51.241	0,27%	8,90	15.200	17,00	-1,20	5,80	4,40
Latvia	32.720	0,26%	10,20	14.400	9,50	0,10	10,10	5,70
Cyprus	18.233	0,20%	4,40	23.200	59,80	3,30	2,20	3,90
Estonia	23.578	0,15%	6,30	17.600	3,50	2,70	6,70	4,10
Malta	7.849	0,06%	3,70	19.200	64,20	-1,80	1,60	5,90

Source: Eurostat, 2008

The highlighted member states comprise of the Euro Area and it is shown that they contribute more than 70,00% to the whole European Union. More specifically, the top five ranking member states by GDP, Germany, France, Italy, Spain and the Netherlands, contribute more than 60,00% to the whole European Union.

In Graph 4.3, the Euro Area's GDP is presented from the first year of commencement. Although, in the early years there was an obvious decline in the GDP growth, in 2006, the Euro Area experienced its steepest increase in the GDP growth, 2,80% (Eurostat, 2008) while it has averaged a 1,98% increase for the previous 5 years and a 2,09% increase (as mentioned previously) for the last 8 years.

Graph 4.3 Euro Area GDP % Change
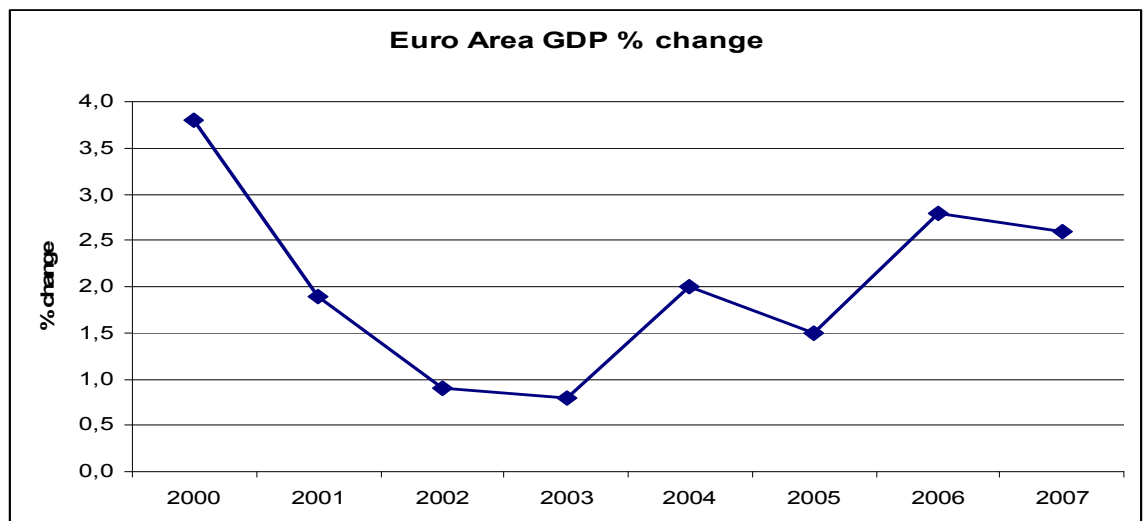
Source: Eurostat (2008)

The momentum that the Euro Area economy gained in 2005 and onwards is supported by favourable external conditions such as accelerating growth in world output and trade, moderation in oil price developments, improved

international price competitiveness (see Graph 4.4) measured by the real effective exchange rate. As indicated in Graph 4.4 the exchange rate of the euro currency to the USA dollar has been overall on an upward trend.

Graph 4.4 Euro Rate to the US Dollar

Euro rate to the US dollar

	2000	2001	2002	2003	2004	2005	2006	2007
€/$ EURUSD	0,9427	0,8895	1,0492	1,2595	1,3555	1,185	1,32	1,459

Source: ECB (2008)
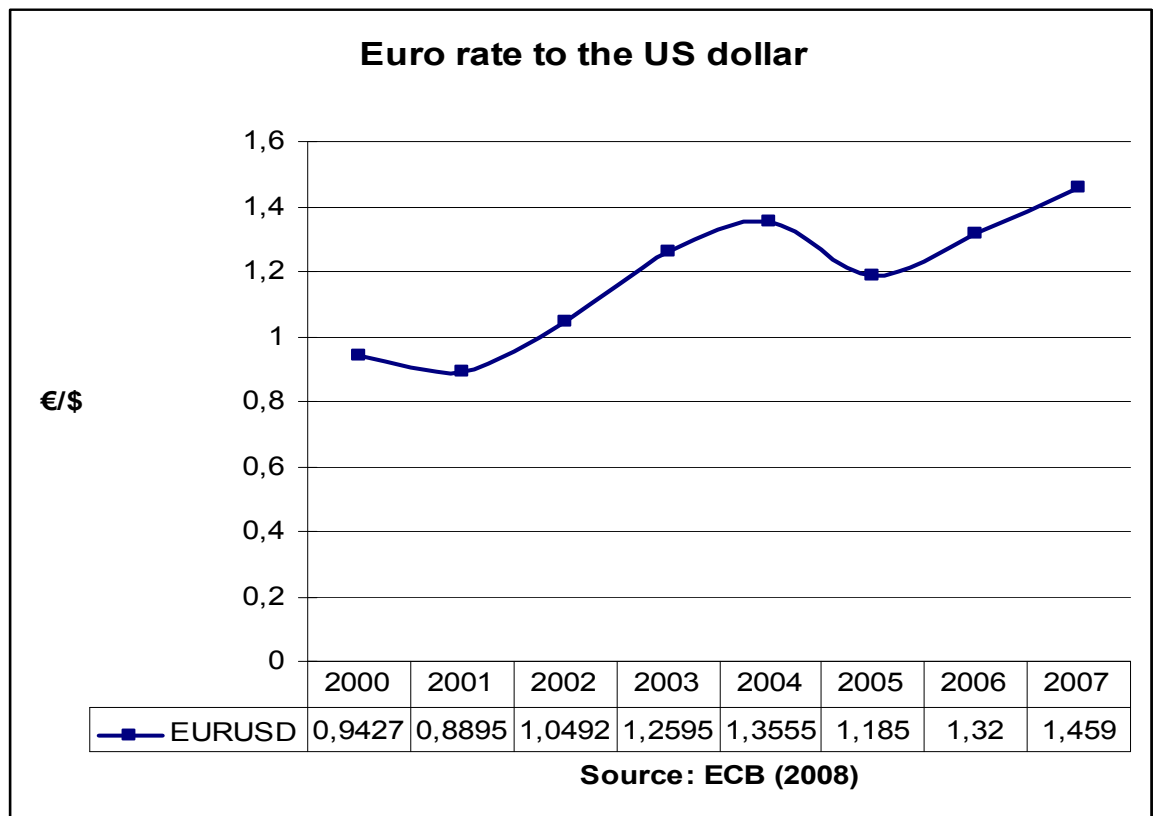
The latter was most notable on the export led economies of the Euro Area like Germany, Austria and the Netherlands that posted significant increases in their exports to non European Union 27 partners. Table 4.9 below illustrates the exports of all products of Euro Area member countries to non European Union 27 countries as a percentage to their GDP.

Table 4.9 Exports of Euro Area States to Non EU 27 States

	2000	2001	2002	2003	2004	2005	2006	2007
Belgium	23.2	22.1	24.6	22.8	23.0	23.3	23.3	23.4
Germany	35.3	36.4	36.6	35.1	35.4	35.7	36.4	35.2
Ireland	35.2	35.8	34.0	37.6	37.1	36.2	36.7	36.4
Greece	38.0	36.4	39.2	35.1	35.8	38.3	36.1	36.0
Spain	27.0	25.6	25.2	24.7	25.7	27.6	28.8	30.1
France	35.2	35.8	34.9	33.3	34.0	36.5	34.5	35.0
Italy	38.5	39.0	39.1	37.6	38.1	38.8	38.8	39.9
Cyprus	40.1	44.6	42.4	38.7	32.7	26.8	29.8	28.2
Luxembourg	13.3	11.7	11.7	10.7	9.7	10.2	10.5	11.4
Malta	66.0	47.5	52.6	51.2	49.6	48.3	49.6	50.4
Netherlands	18.7	18.5	19.6	19.6	20.1	20.2	20.8	22.0
Austria	25.3	25.1	25.1	24.7	26.5	28.2	28.0	27.5
Portugal	18.4	18.7	18.6	18.9	19.9	20.0	22.6	23.3
Slovenia	27.9	29.4	31.4	31.8	32.5	31.8	31.6	30.7
Finland	36.9	39.5	38.9	39.8	41.9	43.7	42.7	43.2

Source: Eurostat (2008)

The high cost of oil however is not in the picture when one takes into account the soaring prices that occurred in 2007. Graph 4.5 shows the soaring oil prices that occurred especially during 2007. The Euro Area economy is dependant on energy. Energy imports make up almost 20,00% of the total imports in the Euro Area, as the "Euro Area trade". This will be discussed separately and thoroughly later on in this Chapter.

Graph 4.5 Crude Oil Spot Price ($)

Crude Oil Spot Price ($) - RWTC
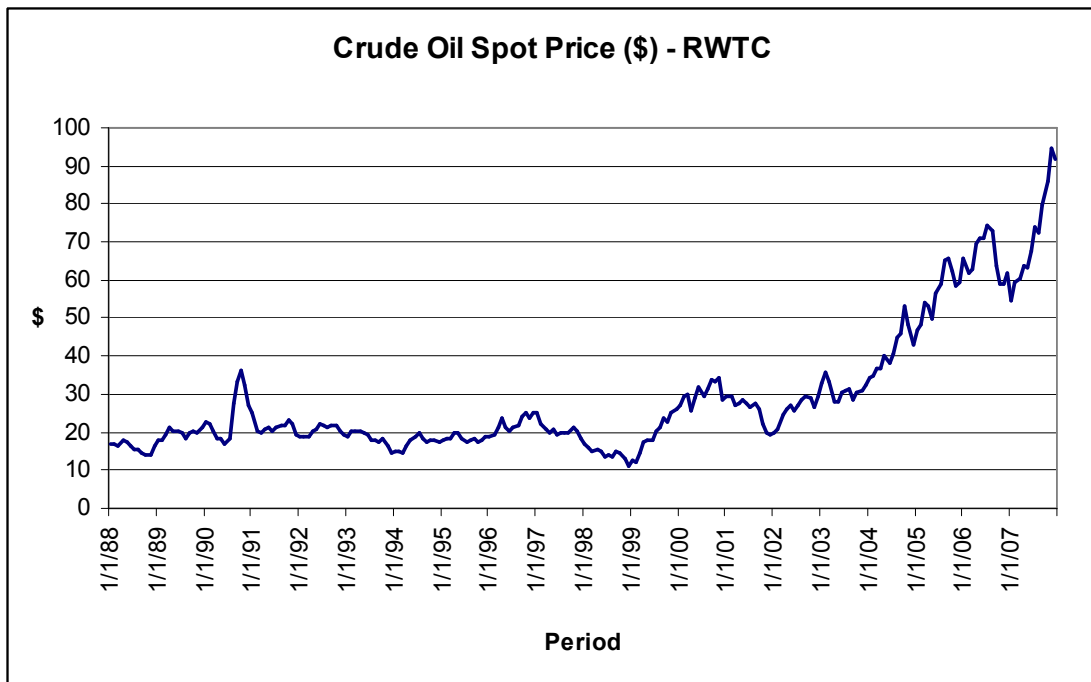
Source: U.S. Energy Information Administration (2008)

Although the high cost of oil and hence the cost of the manufactures goods does not seem to show any signs of worry for 2007, the Euro Area inflation reveals a different perspective in Graph 4.6 below:

Graph 4.6 Inflation in the Euro Area
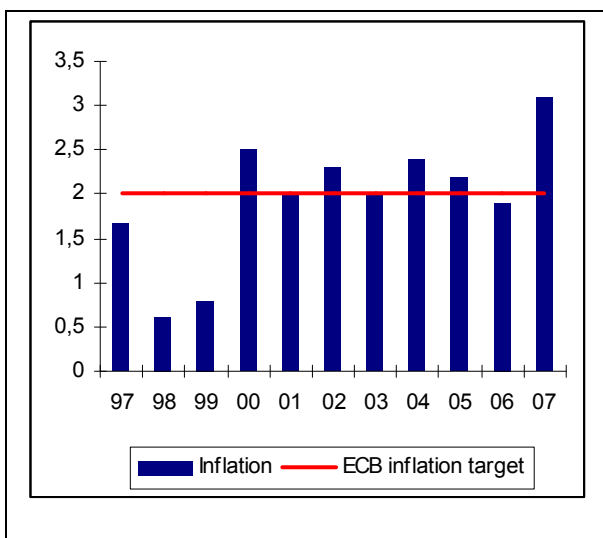
The inflation of the Euro Area accelerated in 2007, 3,10% (Eurostat, 2008), posing serious concerns of the 2,30% average of the last 5 years.

Most inflationary pressure is derived from global food and energy price increases. As indicated in Graph 4.5, oil prices flirted with US$100 a barrel in November 2007, and remain elevated at those record high levels throughout the first half 2008. Inflationary pressures are also aligned in rising demand for food in emerging markets, that coincides with global supply constraints, making the outlook for 2008 even worse than the inflation number of 2007.   Regardless of the 2006 year, the inflation rate has been consistently higher than the ECB's inflation target of 2,00%.

4.6.1 Money Supply Growth:

Money supply annual growth in the Euro Area soared to 11,40% in 2007, posting the highest rate of liquidity growth since Euro Area money – supply records began. Such a fast pace of expansion is puzzling, since lending conditions have tightened considerably since 2005. The ECB has increased the main refinancing operations minimum bid rate, indicated as repo rate on the Graph below, by 200 basis points since December 2005, which should have curbed the incentive to borrow.   A graphical representation of this fact is presented below (Graph 4.7), where the Euro Area M3 growth is tabulated against the three month Euro Area repo rates and the three month euribor rates.

Graph 4.7 M3 Growth to Repo 3 month Euribor Rates

Source: European Central Bank (2008)

	2000	2001	2002	2003	2004	2005	2006	2007
M3 annual growth (%)	4,10	8,00	7,00	7,10	6,60	7,30	9,90	11,50
Euro Area repo rates (%)	4,75	3,25	2,75	2,00	2,00	2,25	3,50	4,00
Euribor 3 month (%)	4,40	4,26	3,32	2,33	2,11	2,18	3,08	4,28
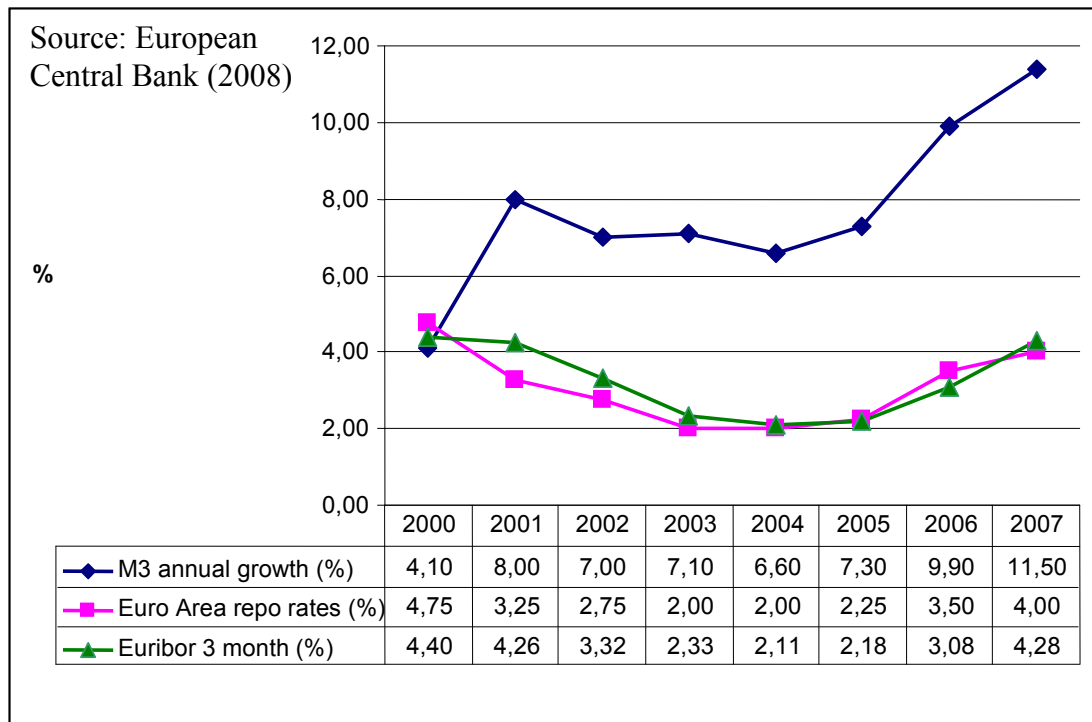
Moreover, the euribor (3 month) rate - the rates at which commercial banks lend money to each - other gained over 217 basis points over the same period. In essence, it became more expensive to get a loan. Schabert (2005) analysed the relation between interest rate targets and money supply in a (bubble-free) rational expectations equilibrium of a standard cash-in-advance model. Although the project study suggests further research on the subject, the findings point to a general conclusion that the money growth rates correspond to rising inflation.

In addition, the ECB has increased borrowing costs by 200 basis points since December 2005, which should have curbed the incentive to borrow. The rapid growth of money supply raises questions about the true impact of the credit crunch, the effects of higher borrowing costs and the effect of

liquidity expansion on inflation. The ECB's most recent quarterly bank lending survey (relatively to my time frame of 31/12/07), 18th January 2008 – The Euro Area Bank Lending Survey suggests that not only is it more expensive to get a loan, it is also more difficult. More than 40,00% of banks said they tightened credit standards for businesses in the fourth quarter. This compares with 31,00% of banks tightening standards in the third quarter.

4.6.2 General Government Debt:

On average, Euro Area general government debt in relation to nominal GDP has continued its declining trend of past years, stabilising at around 67,00% of GDP. Table 4.10 portrays a clear representation of where each Euro Area member state stands. It shows the general government consolidated gross debt as a percentage of GDP for each member state.

Table 4.10 reveals that there are important differences on country levels: In some Euro Area countries debt to GDP levels are comfortably low (Luxembourg 6,80%, Ireland 25,40%) or a downward trend in debt ratios has been successfully established and is set to continue, albeit from different levels (Spain 36,20%, Austria 59,10%, Belgium 84,90%). In contrast, other Euro Area countries face upward trends, leading the debt ratio to well above 60,00% (Germany 65,00%, France 64,20%, Portugal 63,60%), or a stabilization of debt ratios on very high levels close to 100,00% (Greece 94,50%, Italy 104,00%).

In Belgium, the virtuous circle of robust primary surpluses and decreasing debt levels remains intact, which, in turn, leads to a continuously decreasing interest burden and is opening up room for alternative spending and old-age provisioning. Greece, another high-debt country, succeeded to return to increasing primary surpluses that, together with sustained nominal GDP growth, are expected to contribute to declining debt ratios in coming years. On the contrary, Italy did not manage to prevent a marked deterioration in primary balances, bringing the trend of declining debt and interest ratios to a halt. A further deterioration in primary balances could even cause increasing debt and interest ratios at some point. The risk of increasing interest ratios, which would eat up room for other expenditures, is also present in Portugal, France and Germany, three countries in which an upward trend in debt ratios is occurring. This unfavourable development is being intensified by weak nominal GDP growth in Portugal and Italy. Table 4.10 is indicative of the gross government debt as a percentage of GDP for the Euro Area member states.

Table 4.10 General Government Consolidated Gross Debt as a % of GDP

	2000	2001	2002	2003	2004	2005	2006	2007
Euro Area	**68,70**	**68,30**	**68,10**	**69,30**	**69,70**	**70,30**	**68,60**	**66,60**
Belgium	107,80	106,50	103,40	98,60	94,20	92,10	88,20	84,90
Germany	59,70	58,80	60,30	63,80	65,60	67,80	67,60	65,00
Ireland	37,90	35,60	32,20	31,10	29,50	27,40	25,10	25,40
Greece	103,20	103,60	100,60	97,90	98,60	98,00	95,30	94,50
Spain	59,30	55,50	52,50	48,70	46,20	43,00	39,70	36,20
France	57,30	56,90	58,80	62,90	64,90	66,40	63,60	64,20
Italy	109,10	108,70	105,60	104,30	103,80	105,80	106,50	104,00
Cyprus	58,80	60,70	64,70	68,90	70,20	69,10	64,80	59,80
Luxembourg	6,20	6,30	6,30	6,10	6,30	6,10	6,60	6,80
Malta	55,90	62,10	60,10	69,30	72,60	70,40	64,20	62,60
Netherlands	53,80	50,70	50,50	52,00	52,40	52,30	47,90	45,40
Austria	65,60	66,10	65,90	64,70	63,80	63,50	61,80	59,10
Portugal	50,50	52,90	55,60	56,90	58,30	63,60	64,70	63,60
Slovenia	n/a	27,20	28,40	27,90	27,60	27,50	27,20	24,10
Finland	43,80	42,30	41,30	44,30	44,10	41,30	39,20	35,40

Source: Eurostat (2008)

4.6.3 Euro Area Fiscal Policy:

Similarly to the Government Debt as in the previous section, there are important differences in fiscal policy developments across Euro Area members. As in the previous section, Table 4.11 was constructed for the purposes of the numerical representation of the fiscal policy for the Euro Area member states. It is indicative that some Euro Area member states have for some years achieved overall balanced general government budgets (Spain, Belgium, Ireland, Finland) or have managed to keep

rather small deficits under control (Austria, Netherlands, Luxembourg) (see Table 4.11). Those countries implemented expenditure reforms either in the early 1980s or the mid1990s, which were typically part of a broader, comprehensive reform agenda. Governments reduced the level of spending mainly in the Areas of government consumption, income transfers and subsidies, streamlining government commitments while prioritising productive objectives within public sector activity.

Table 4.11 Net Borrowing/Lending of Consolidated General Government Sector as a % of GDP

	2000	2001	2002	2003	2004	2005	2006	2007
Euro Area	**0,10**	**-1,80**	**-2,50**	**-3,00**	**-2,90**	**-2,50**	**-1,30**	**-0,60**
Belgium	0,10	0,60	0,00	0,00	0,00	-2,30	0,30	-0,20
Germany	1,30	-2,80	-3,70	-4,00	-3,80	-3,40	-1,60	0,00
Ireland	4,70	0,90	-0,40	0,40	1,40	1,60	3,00	0,30
Greece	n/a	n/a	-4,70	-5,60	-7,40	-5,10	-2,60	-2,80
Spain	-1,00	-0,60	-0,50	-0,20	-0,30	1,00	1,80	2,20
France	-1,50	-1,50	-3,10	-4,10	-3,60	-2,90	-2,40	-2,70
Italy	-0,80	-3,10	-2,90	-3,50	-3,50	-4,20	-3,40	-1,90
Cyprus	-2,30	-2,20	-4,40	-6,50	-4,10	-2,40	-1,20	3,30
Luxembourg	6,00	6,10	2,10	0,50	-1,20	-0,10	1,30	2,90
Malta	-6,20	-6,40	-5,50	-9,90	-4,60	-3,00	-2,60	-1,80
Netherlands	2,00	-0,20	-2,10	-3,10	-1,70	-0,30	0,50	0,40
Austria	-1,70	0,00	-0,60	-1,40	-3,70	-1,50	-1,50	-0,50
Portugal	-2,90	-4,30	-2,90	-2,90	-3,40	-6,10	-3,90	-2,60
Slovenia	-3,80	-4,00	-2,50	-2,70	-2,30	-1,50	-1,20	-0,10
Finland	6,90	5,00	4,10	2,60	2,40	2,90	4,10	5,30

Source: Eurostat (2008)

Other Euro Area countries face high and sometimes increasing general government deficits of between 3,00%-6,00% of GDP (France, Germany, Italy, Greece and Portugal). It was typical for these countries to continuously miss budgetary targets. In some cases, this was mainly due to cyclical or structural tax revenue shortfalls and expenditure overruns (Germany, France, Italy, Portugal), suggesting that budget targets were based on rather optimistic growth expectations with poor margins of safety.

As it is indicated above, in 2005 and onwards, the average budgetary situation in Euro Area countries improved with deficit ratios stabilising at around 0,60%. This was due to better-than-expected growth performance and revenues as well as structural budgetary adjustments.

Substantial improvements in the budgetary position have been recorded in Germany, Spain, The Netherlands, and Greece, whereas deficit ratios have stayed broadly stable in Belgium and Finland. In past years, structural causes such as overruns in primary spending (Greece, France, Italy and Portugal) and unfunded tax cuts (Portugal, Italy, and Germany) contributed to higher-than-projected deficits as countries chose to favour growth and employment and to avoid pro-cyclical consolidation policies. Rising cyclically-adjusted public deficits signalled important structural imbalances in several countries, which became visible in recent times of economic weakness. As a consequence of recent reform initiatives in Euro

Area countries, cyclically-adjusted government deficits in relation to GDP in 2007 have, on average, also started to improve.

However, it seems that (nominal) goals for general government deficit and debt in relation to GDP can become an incentive for governments to rely on one-off funding operations and to raise funds through securitisation of future revenues in order to achieve nominal deficit and debt targets at a certain point in time instead of improving sustainability of public finances. During past years, especially Portugal, Italy, and Belgium, but also Germany, France and Greece were relying on such temporary measures. It is noteworthy that many Euro Area countries seem to realise the necessity to replace one-off measures by structural expenditure cuts. Although this may at least temporarily lead to higher deficit ratios, 'it is a welcome development' as it is stated in the 2007 convergence report for the ECB. In this respect, the recent reform of the Stability and Growth Pact (1997), might shift focus away from nominal towards structural targets and therefore stress the need for quality and sustainability of fiscal consolidation.

4.7 Euro Area Trade:

According to the ECB, the Euro Area is far less open than the economies of the individual Euro Area countries (measuring the degree of openness with regard to extra-Euro Area trade flows in proportion to the ECB). The Table that follows is indicative of the trade balance of the Euro Area and the main country counterparts. It is an actual representation of the

exports, imports and the associated trade balance of the Euro Area and its

main world trade counterparts:

Table 4.12 Extra- Euro Area Trade Balance by Main Partner (€ billions)

	EXPORTS					IMPORTS					TRADE BALANCE			
	1999	2003	2005	2006	% share in total	1999	2003	2005	2006	% share in total	1999	2003	2005	2006
Extra Euro Area (13)	818	1055	1239	1377	100,00	787	987	1224	1388	100,00	31	68	15	-11
United Kingdom	162	195	203	214	15,60	134	139	153	166	12,00	28	56	50	49
USA	136	167	185	199	14,40	115	111	120	128	9,20	21	56	65	71
China	16	35	43	53	3,90	37	75	118	143	10,30	-21	-40	-75	-90
Russia	13	30	44	56	4,00	23	48	76	95	6,90	-10	-18	-32	-40
Switzerland	56	63	71	76	5,60	44	51	58	62	4,50	12	13	13	15
Poland	25	34	46	59	4,30	15	27	33	41	3,00	10	7	13	17
Sweden	33	39	45	50	3,60	33	37	42	47	3,40	0	2	3	2
Japan	27	31	34	34	2,50	55	52	53	56	4,10	-28	-21	-19	-22
Czech Republic	17	29	35	42	3,00	16	27	32	39	2,80	1	1	4	2
Turkey	17	25	35	39	2,80	13	19	25	29	2,10	5	5	10	10
Hungary	17	25	28	32	2,30	17	24	27	30	2,20	1	0	1	1
Norway	11	12	16	18	1,30	17	31	37	44	3,10	-6	-19	-21	-26
Denmark	21	25	29	31	2,30	19	24	26	28	2,00	2	1	3	3
South Korea	9	13	16	19	1,40	14	19	25	28	2,00	-5	-5	-9	-9
Brazil	12	10	14	15	1,10	12	15	20	22	1,60	1	-5	-6	-7
Others	245	322	395	441	32,00	225	288	379	429	30,90	20	34	17	12

Source: European Statistical Service, 2008

Taking imports and exports together, the United Kingdom followed by the United States were the Euro Area's biggest trading partners in 2006. However, Russia and China are emerging as major partners for both goods exported and imported. On a steady upward trend Czech Republic, Turkey and Poland are also noted.

Trade in goods accounts for the largest share of Euro Area imports and exports. As it is indicated from the sector composition of the extra-Euro Area, energy and raw material seem to post the highest share of imports, while processed goods constitute the largest share of exports (ECB, 2008). Consequently, this reveals the scarcity of raw materials within the Euro Area and the international division of labour, as indicated on Table 4.13 below:

Table 4.13 Euro Area External Trade

External Trade in goods in the Euro Area in 2007		
Share as total of %	Exports	Imports
Machinery and transport equipment	44,30	32,40
Chemicals	15,50	9,80
Raw materials	2,20	4,80
Energy	3,90	19,70
Food, drink and tobacco	6,10	5,50
Other manufactured articles	25,70	26,60
Other manufactured articles	2,30	1,20
Total	100,00	100,00

Sources: Eurostat and ECB, 2008

For 2007, the total exports of goods and services of the Euro Area as a % to its GDP is at 22,40% and is ahead of the United States (11,90% to GDP) and Japan (18,40% to GDP) (ECB, 2008). More impressive though, and excluding the exports in the intra-Euro Area, is that the Euro-Area exports as a percentage to the world exports is at 17,50%, versus 9,90% for US and 6,10% for Japan. For 2007 and as a % of the GDP, imports for the Euro Area stood at 21,20%, 17,00% for the United States and 16,50% for Japan (ECB, 2008).

4.8 Ageing Europe:

One of the most debatable issues that troubles the European Commission officials is the ageing population of Europe. In this section, I am also

presenting the Cyprus' perspective since the latest report for 2007 from the European Commission is pointing at the ageing situation that the island will face in the future. However, on examining the Table below one will realise that Cyprus and the Euro Area do not have considerable differences considering the demographic age data.

Table 4.14 Demographic Data for the Euro Area and Cyprus

	Euro Area		Cyprus	
< 14 years	49.417.992	15,52%	139.739	17,95%
15 > years > 24	37.338.841	11,73%	121.049	15,55%
25 > years > 49	116.882.214	36,71%	290.744	37,34%
50 > years > 64	57.789.887	18,15%	131.443	16,88%
65 > years > 79	42.239.560	13,27%	74.168	9,52%
> 80 years	14.734.907	4,63%	21.541	2,77%
Total Population	318.403.401	100,00%	778.684	100,00%

Source: Eurostat, Cyprus Statistical Service, 2008

The demographic change will have considerable consequences for economic growth and the long-term sustainability of public finances, with rising expenditures on public pensions, health care and care for the elderly. Growing imbalances risk limiting future growth potential and income generation. European social welfare systems, mainly based on intergenerational burden sharing are beginning to adapt to increasing tensions brought on by the demographic change. Most Euro Area governments have started to reform their state pay-as-you-earn pension systems and to establish supplementary old-age provisions on a funded

basis. The demographic challenge is also putting increasing reform pressure on the health sector as the cost/contribution ratio tends to deteriorate in many Euro Area countries. Welfare systems also have not yet been sufficiently redesigned to cope with periods of weak economic growth and to give incentives for rational behaviour on both the demand and supply sides.

According to the Monthly Bulletin (ECB, 2006, p 54) on the Euro Area for October, from the European Central Bank:

> Dramatic changes in the demographic structure of European populations mean that the old age dependency ratio is expected to increase from 25,00% at present to more than 50,00% by 2050 in most Member States. Age related public expenditure in the euro Area, which includes spending on pensions, healthcare and long-term care, is projected to increase on average by around 4,00% of GDP by 2050 under a no-policy change scenario

4.9 Highlights of the Euro Area Economy as at 31/12/2007:

The section regarding the Euro Area Economy is summarised in the following bullet points:

- During the past 5 years, GDP growth was at an average of 1,96%, inflation at an average of 2,14% and unemployment at an average of 8,42%

- Government debt as % of GDP was over 66,00% well above the Maastricht requirement/criteria. Debt ratios and fiscal policy vary extensively between member states.

- The Euro Area is dependant on imported energy, making it sensitive to energy costs.

- The Euro Area's soaring money supply, is troubling regulators and banking institutions since lending conditions have tightened considerably since 2005. Although the ECB increased the repo rate by 200 basis points since December 2005, the steady increase in money supply is not showing any signs to curb borrowing.

- The Euro Area's highly competitive €/$ exchange rate, improved international price competitiveness. The increase in exports, measured by the real effective exchange rate, was mostly beneficial to the export led economies of the Euro Area.

- The Euro Area is a trade heaven. It is the world's biggest exporter (compared to total world exports) and also the worlds largest imported (compared to its GDP).

- The Euro Area is faced with the problem of ageing population. Although, the demographics differ substantially from Cyprus, end result, the effect of this problem will be the same for both Areas. There is imminent need for reform since the demographic change will have considerable consequences for economic growth. Furthermore the long-term sustainability of public finances is in jeopardy since ageing population also means rising expenditures on public pensions, health care and care for the elderly. Growing imbalances risk limiting future growth potential and income generation.

4.10 Synopses of Chapter 4:

As Table 4.8 reveals, Cyprus's contribution to the Euro Area GDP is a merely 0,20%, while the Euro Area contributes 16,10% to the world GDP.

Although the two economies seem uneven to compare, there are some unique and common characteristics for each one of them and for both of them. For instance, Cyprus as a small economy is more flexible and adjustable to its government debt and fiscal policy. Although the Cypriot economy is more vulnerable to political conditions in Cyprus, Europe and the Middle East, the political risk and exchange risk were lifted upon its accession in the Euro Area in 2007. Over the last 8 years the Cypriot economy has been expanding with an average annual rate of 3,60% compared with 2,05% for the Euro Area, the inflation averaged an annually 2,77% versus 2,16% for the Euro Area and unemployment was kept at an annually average rate of 4,42% compared to 8,28% for the Euro Area (Cyprus Statistical Service and Eurostat, 2008).

The Cypriot economy has been expanding rapidly compared to the Euro Area, but on the other hand (see Table 4.7) the Euro Area has managed to keep inflation levels stable. The price stability requirement is in check with the proceeding period.

Both economies are dependent in energy and are vulnerable to energy prices. This has a negative effect in production and manufacturing costs in the Euro Area. The same effect applies for Cyprus since the island is

not self sufficient and has to import raw materials, food, transportation and energy (oil). Euro Area imports on energy adds up to almost 20,00% of its GDP which makes it not only dependent on energy but also vulnerable to price fluctuations. Also, the exchange rate of the euro currency between its two major trading partners, the United Kingdom and the United States plays an important role for exports. Moreover, the island of Cyprus is dependent largely on the tourism sector, as it contributes more than 12,00% to the GDP and during the last few years it also contributes indirectly to the construction industry. The island has an inflow of over 2 million tourists per year, with the majority of them coming from the United Kingdom. Therefore, the exchange rate of the British sterling to the Euro, £/€, has proven sensitive over the years for the Cypriot economy as well. Looking at the major trade partners for the Euro Area, it is concluded that both economies are affected by the £Stg/€ exchange rate. Furthermore, the rate between the USA dollar and the euro currency is critical for the external Euro Area trade.

The Cyprus economy at this point is in the process of restructuring and shifting its production to more profitable sectors, while the more mature Euro Area economy is aiming for fiscal consolidation reform through the Stability and Growth Pact. Maastricht requirements vary extensively between member states although the Euro Area by the end of 2007 reported total Public debt of 66,60% of the Euro Area's GDP and Fiscal debt of -0,60% to the Euro Area's GDP. Although the Cypriot economy is still far away from reaching the level of maturity of the Euro Area economy,

it is also facing restructural problems. Over the last ten years, the Cypriot economy has moved gradually its dependency from the tourism sector to the financial services and construction. Moreover, sectors such as health and education appear to be on a hopeful positive trend. On the other hand, the Euro Area member states are faced with growing public debt and are looking at ways to replace one-off measures by structural expenditure cuts.

Lastly, the Euro Area, including Cyprus, is faced with an ageing population time bomb. The old age dependency ratio is expected to increase from 25,00% to 50,00% in the majority of member states. This will put an unbearable budgetary cost to the Euro Area economies, an estimated 4,00% of the Euro Area's GDP in around 2050's.

The Cyprus economy is not faced with substantial structural problems like most Euro Area countries but its current trend is expanding to the Euro Area averages. On the other hand, the Euro Area member states are looking at ways to maintain their growth and stability since they are faced with increasing Public debt and an ageing population.

Overall, both economies as operational environments, are stable, non inflationary and have experienced sustained growth for the last 8 years. The above review of the Cypriot economy and the Euro Area economy was proven necessary in order to asses their main characteristics, since the operation of the banking sector is solely dependent and interrelated

with these characteristics. For example, the ageing population problem in both economies, is perhaps posting economic troubles ahead, but it can also prove to be an opportunity for financial institutions that will develop tailor made retirement products. Moreover, the dependency on energy might as well prove to be opportunity for financial institutions that will redirect their corporate financing to corporations that deal with energy renewable sources.

As each economy has its advantages and disadvantages, the banking sectors have their own peculiarities and advantages also. In the next Chapter the banking sectors of both economies will be examined, and the major operating and structural differences will be pointed out. Chapter 4 and Chapter 5 will actually provide the project study with enough material and information regarding the economic areas of operation and their respective specific banking sectors as well. In Chapter 6, the deposit and lending rates of the banking sectors will be assessed for the household, non-financial corporations and government sectors. The next Chapter, Chapter 7, focuses on the conclusion and findings of the project study.

CHAPTER 5

THE EURO AREA AND CYPRUS BANKING SECTORS

5.1 Introduction:

After the assessment of the operational environment of the Euro Area MFIs and the Cypriot banks, this Chapter is examining the Cypriot and the Euro Area banking sectors. Although the pricing policy of a banking institution involves the spreads between the deposits and the loans, the research study is also focusing in the main differences of the economies and the banking sectors. After assessing in the previous Chapter the economic environment of operation for the banking sectors in Cyprus and in the Euro Area, the project activity continues in this Chapter.

This Chapter has two aims: First, to identify and understand the factors that are shaping the structure of the Cypriot banks and the Euro Area MFIs, and second to compare and evaluate the two sectors with each other. At the end of the research activity of this Chapter, the findings and the conclusions will result in the specific factors that are shaping the pricing policy of the Cypriot banks and the Euro Area MFIs. Since the Cypriot banks will operate in the new Euro Area economic environment, the identified factors that are shaping the pricing policy of the Euro Area MFIs will inevitably affect the Cypriot banks also.

The data used for the purposes of this Chapter is extracted from official sources such as the ECB, the CCB, the European and Cyprus statistical services, and the tables and graphs used are created for the purposes of the analysis.

5.2 The Cyprus and Euro Area Banking Structures:

By the end of 2007, there were 44 Banking institutions that were under the supervision of the CCB. Among them is also the Co-operative Central Bank that is acting also as a "lender of last resort" for other 171 Co-operative societies (Coops). Although the project is focussed on the pricing factor of a banking institution (and more specifically of a commercial bank) the "Coop societies factor" for the Cyprus Banking Institutions can not be ignored, since they are a major player in the local banking sector. A brief informative description of the Coops evolution in Cyprus is included in the Annex section of the project study.

Looking at the Euro Area banking sector, one will realise the vast consolidation that the MFIs are going through over the last 6 years. Table 5.1 below, is showing the number of institutions reported by the ECB and the CCB as at the end of each year.

Table 5.1 Euro Area and Cypriot Financial Institutions

	2001	2002	2003	2004	2005	2006	2007
Cyprus	406	408	408	405	391	336	215
CY Coops	n/a	n/a	n/a	n/a	347	293	171
Euro Area	7218	6906	6593	6406	6248	6130	6128
Sources: European and Cyprus Central Bank, 2008							

The data above suggests that a similar action is also taken in Cyprus and more specifically by smaller Coop Societies merging together and combining / adjusting their structure to be able to operate and perform efficiently in the new environment. Also, considering the fact that the Euro Area enlargement took place on the 1st of January, 2001 and 2008, it is eminent that the noted Euro Area MFIs' consolidation is on a downward trend and no signs of reversal for this trend are shown yet.

A look at the total assets of the Euro Area credit institutions, Table 5.2 below, reveals that the result is the same, for both areas, the number of credit institutions is declining, the total assets are increasing, therefore signalling the emergence of larger institutions.

Table 5.2 Total Assets of Credit Institutions (€ millions)

	2002	2003	2004	2005	2006	2007
Cyprus	40.943	41.890	46.540	60.366	74.397	91.141
Euro Area	18.068.591	18.888.107	20.429.653	22.640.695	24.937.530	28.312.864
Sources: European and Cyprus Central Bank, 2008						

Table 5.2 reveals that the total assets of Cypriot Banks have nearly doubled in the last 5 years (81,00% increase), while their Euro Area

counterparts for the same period increased their assets by 38,00%. This fact suggests that the Cypriot banks are growing faster than their Euro Area counterparts.

According to the latest Banking Structure Report (ECB, 2008), by the end of 2007, one banking / credit branch corresponded to 845 inhabitants in Cyprus, while in the Euro Area one branch corresponded to 1730 inhabitants. There are two anomalies here, in the case of Cyprus.

First, it is the definition given for "banking branch" in the Euro Area and in Cyprus, not in its business sense but in its practical perspective. There are banking branches in Cyprus that are operated by one or two employees (clusters). Moreover, a lot of these branches used to operate in the tourist areas, since their primary operation was foreign exchange and wire transfers. Additionally, a Cypriot typical banking branch can not provide the same spectrum of banking services as in the Euro Area, but its main operations are the deposits and cash advances of the regional population.

On top of the above, the Coops are not excluded from the calculation, so we will have to take into account the fact that many Coops are in segregated areas and their typical operations are cash deposits and advancements.

It is expected that the on going consolidation of the local Coops will shift the number of inhabitants per branch closer to the Euro Area average.

On the contrary to the above, in Cyprus there are 139 bank employees per 10.000 inhabitants versus 69 in the Euro Area, a number that is disproportional to the Euro Area average. Moreover, as it is indicated on Table 5.3 below, the total assets per employee are considerably lower in Cyprus than in the Euro Area average.

Table 5.3 Total Assets per Employee (€ millions)

	2002	2003	2004	2005	2006	2007
Cyprus	3,86	4,00	4,38	5,59	6,86	8,08
Euro Area	8,04	8,59	9,33	10,33	11,34	12,44
Sources: European and Cyprus Central Bank, 2008						

It appears that the Cyprus Banks have excess number of employees compared to the Euro Area and more specifically, compared to the number of inhabitants and to the Total Assets of the Banks. The main reason for the above is that until recently the Cyprus Banks did not expand overseas but only locally. This resulted in ill competition that was driven by a number of branches and employees. Moreover, the local banking market was characterised by inexistent polymerisation, therefore the "competition" between the local banks resulted in oligopoly situations. Last but not least, the local economy up to 2004, where Cyprus had joined the European Union was a "closed" economy. Essentially, the local population did not have the ability to transfer funds out of the island, in other words, there was no free movement of capital. That factor resulted in limitations regarding the banking products offered by the local banks,

but also due to the fact that the broad public was not aware of anything else except what the local banks were offering. So, even if the local population wanted specific products, the local banks would not be able to provide them because of the imposed restrictions, and off course, vice versa.

5.3 Banking Competition – The Herfindahl Index:

In order to measure the competition, in respect to the size of the firms in relation to the industry, the European Central Bank adapted the use of the Herfindahl Index since the beginning of 2003.

The Herfindahl index, also known as Herfindahl-Hirschman Index or HHI, measures the level of density in the banking sector, or in other words the amount of competition among them, in relation to the total economic size of the sector (Leuvensteijn et al, 2008). It is defined as the sum of the squares of the market shares of each individual bank (MFI in our case): the average market share, weighted by market share. Decreases in the Herfindahl index generally indicate a loss of pricing power and an increase in competition, whereas increases imply the opposite. The closer a market is to being a monopoly, the higher the market's concentration (and the lower its competition). The scale for measuring the Herfindahl index is from o to 10,000. In an environment of perfect competition the value would be close to 0 since all of the market participants would have low numbers of market share. In cases though that you have high

concentration the number is close to 10,000 since a small number of participants have higher market shares.

In the Chart 5.1 below, the Herfindahl index as at 2007, for the Euro Area is presented (the index is ranging from 0 to 10,000 and in percent). The Cypriot Banking sector is exhibiting a level of concentration that appears very close to the Euro Area average, but it is still higher than the Euro Area average.

Graph 5.1 The Euro Area Herfindahl Index as in 2007

The Herfindahl Index as at 2007

Source: European Central Bank
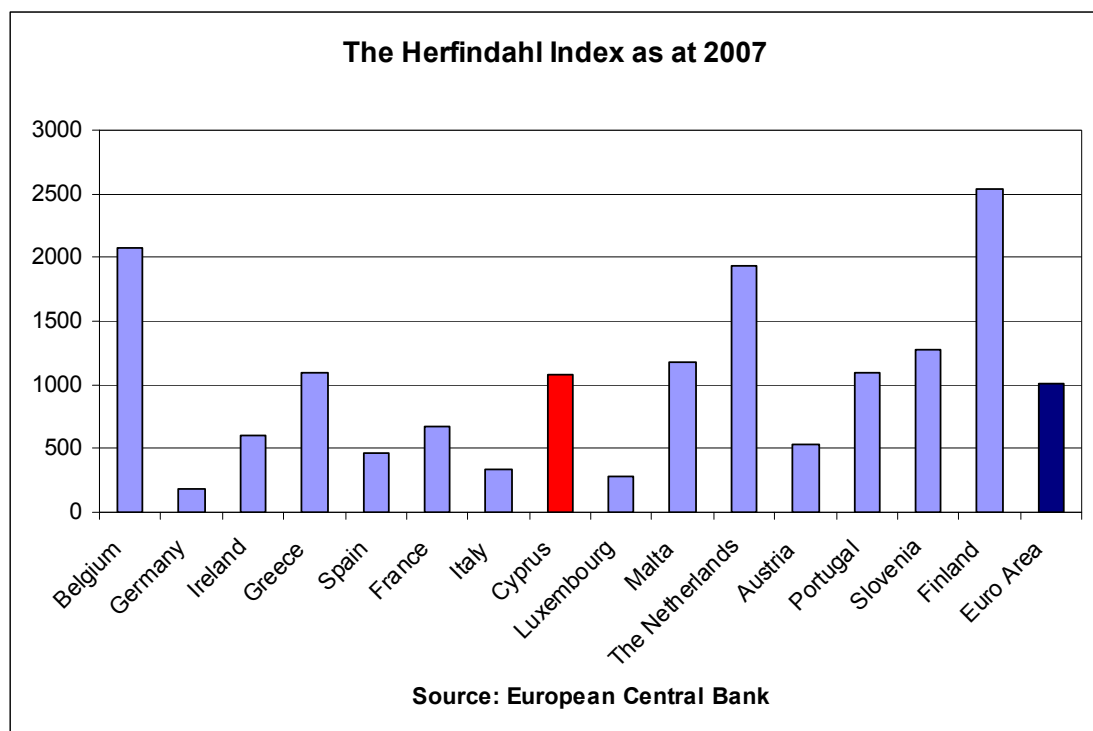
Source: ECB, 2008

The lowest level of concentration is observed in countries like Germany, Spain, Austria and Italy. That is mainly due to the existence of many regional and Coop society banks that compete with the major commercial

banks in the local regions they are operating (ECB, 2007).   However,
since the Herfindahl Index measures the concentration ratio of firms in
relationship to the industry, I am presenting in Graph 5.2 below the market
share, the concentration, of the 5 largest banking / credit institutions (as a
% of total assets) for the Euro Area.

Graph 5.2 Market Share of the 5 Largest Banks – by Member State
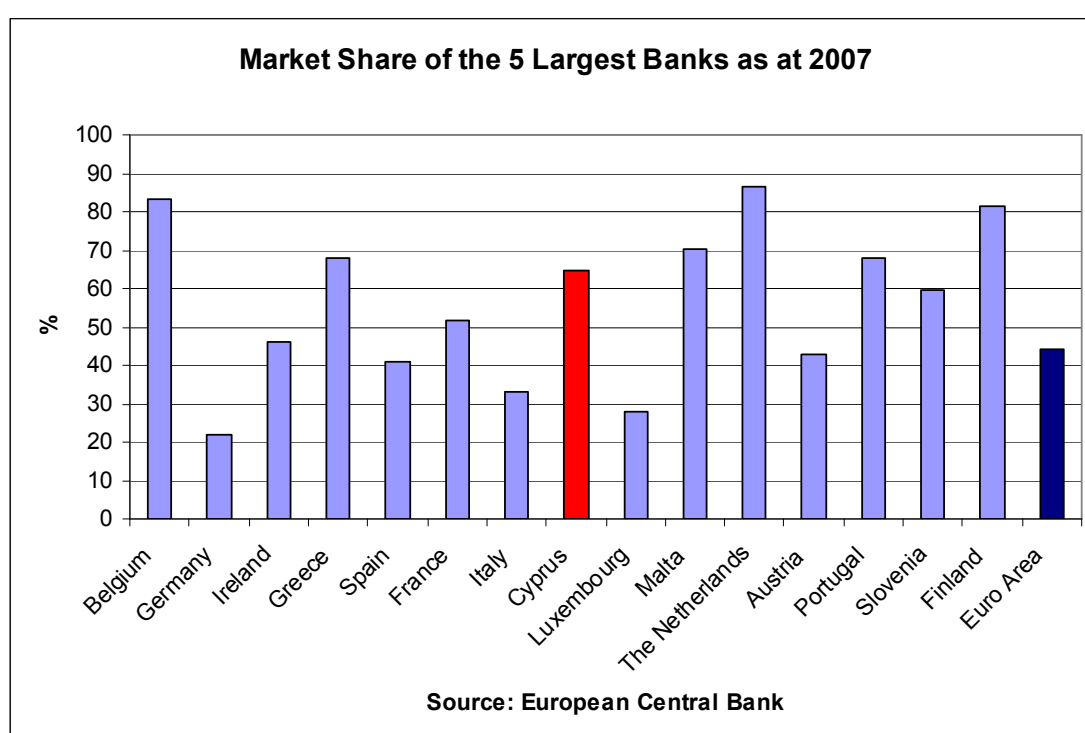
In countries where the Herfindahl index is low compared to the Euro Area
average, the market share of the 5 largest banking institutions is also
relatively low and below the EU average.   Following the comment
regarding Chart 5.1, it is noted that in countries like Germany, Italy, Spain
and Austria, the 5 largest institutions have relatively small market shares
compared to the EU average and therefore there exists high level of
competition (as it is also discussed from the Herfindahl Index).

5.3.1 Competition in the Cyprus Banking Sector - A Sad Realization:

Although the last comments of section 5.3 refer to the subject of competition and from the data in hand, there seems that there are no discrepancies regarding the analysis of the Euro Area and Cyprus banking sectors; in October 2003, the Cyprus Commission for the Protection of Competition (CPC) had a different opinion and initiated an ex officio investigation against all commercial banking institutions. During May 2004, the CPC gave instructions to carry out an own initiative investigation for infringement of the Protection of Competition Law of 1989, as regards to the bank charges against Popular Bank Ltd, Bank of Cyprus Ltd and Hellenic Bank Ltd. The mentioned banks are still the three largest banks on the island and are overall posting more than 60,00% market share.

The CPC appraised all the findings of the ex officio investigation, that, inter alia, included several documents, such as minutes of committee meetings and internal correspondence of the banks that were obtained during the inspections at the bank's premises by the service of the CPC, as well as information collected from the responses of the banks to the questionnaires that were sent out by the service of the CPC to them. Although the initial investigation concerned all the commercial banking institutions, including the Central Co-op Bank, at a later stage, the CPC, by an interim decision held that the proceedings would only concern Bank Cyprus Ltd, Cyprus Popular Bank Ltd (Laiki Bank Ltd) and Hellenic Bank Ltd. At the meeting of the CPC on the 22nd of June 2004, the Bank of Cyprus Ltd, the Cyprus Popular Bank Ltd and the Hellenic Bank Ltd were

called upon to make their representations in regards to the amended statement of objections. The lawyers of the banks did not contest or raise any objections to the infringements and the facts set out in the amended statement of objections. However, they argued that, although there was some collusive behaviour and consultations between the banks, the purpose of those were not to fix prices but to avoid price wars and ultimately to ensure a smooth transition to an environment, where interest rates were to be set freely and independently by each bank, following the abolition of the law fixing the maximum interest rate. They further claimed that, although the intention of the banks during the various contacts in question and/or agreements was not the distortion of competition, nevertheless there existed the possibility to err and thus turn these consultations into collusive type of contacts. It was also stated by their lawyers that the behaviour of the banks was the result of negligence on their part and not of conscious intention for collusive behaviour so as to restrict competition. The lawyers of the banks further claimed that the consultations and/or agreements that took place were of a short duration and took place during the transitional period into the new liberalised environment. They also claimed that any agreements that took place in the past had been terminated. Hellenic Bank Ltd claimed that although they took part in the agreements in question, nevertheless they did not initiate any agreements and also pointed out that, among the three banks involved, it is the smallest in size, and therefore, so was the effect of any restriction of competition, that may have resulted from the infringements in question.

The CPC unanimously decided that the behaviour and acts of the banks in question at the substantial time infringed the law and ordered:

(a) The immediate termination of all infringements of the Law by the Bank Cyprus Ltd, the Cyprus Popular Bank Ltd and Hellenic Bank Ltd and the avoidance of any such repetition in the future.

(b) The imposition of a fine to each bank concerned for the Infringements of the Law, as follows: Bank of Cyprus Ltd £2.475.000 Cy pounds, Popular Bank Ltd £1.695.000 Cy pounds, Hellenic Bank Ltd £830.000 Cy pounds.

The small size of the banking operation in Cyprus, the limited number of banking institutions and the close economy that did not allow any movement of capital or even competition from abroad, proved a deadly combination for the banks in Cyprus. In an effort to avoid price wars and prepare for the new economic environment (as their official point of view suggests), they created price fixing and oligopoly situations, that resulted in embarrassing hefty fines while they struggled to save face, since their spotless reputation began to fade.

5.4 Cyprus Banking Industry Total Deposits:

The deposits have been growing steadily over the last 4 years (Table 5.4), and by the end of 2007, total deposits accounted to £29,37 billion Cyprus Pounds, €52,51 billion. As indicated in Table 5.4 below, the amount of deposits is growing constantly for the last four years, and the deposits' rate of growth is consistently higher than the GDPs' rate of growth.

Table 5.4 Deposit Growth Snapshot of Cyprus

	2004	2005	2006	2007
GDP (€billions)	12,66	13,46	14,39	15,56
GDP % growth	2,01%	1,60%	1,61%	1,04%
CY BANKS DEPOSITS (€billions)	22,17	30,18	34,10	41,21
Coop's DEPOSITS (€billions)	7,89	7,89	9,00	10,30
TOTAL DEPOSITS (€billions)	30,06	38,07	43,10	52,51
DEPOSITS % growth	1,25%	7,32%	5,81%	6,12%
TOTAL DEPOSITS TO GDP (ratio)	2,39	2,62	2,91	3,37

Source: Cyprus Central Bank, Statistical Service of Cyprus (2008)

This number gets more interesting because the total deposits to GDP ratio was 3,25 times by the end of 2007. Measuring the total deposits per capita for the year amounted for £37.717 an equivalent of €64.444.

In Graph 5.3 below, a visual representation of the quarterly GDP and deposits growth is tabulated. It is noted that during 2005, a boom in the deposit growth commenced.

Graph 5.3 Total Deposits Growth to GDP Growth

TOTAL DEPOSITS % GROWTH TO GDP % GROWTH

source: Statistical service of Cyprus and Cyprus Central Bank, 2008
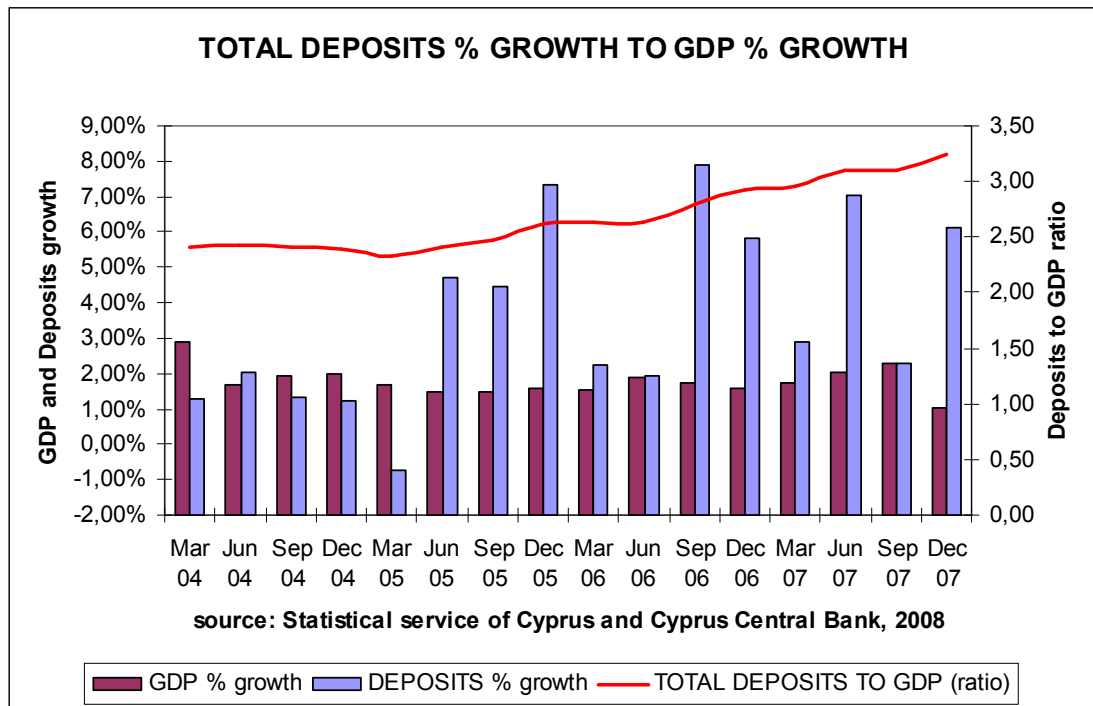
An explanation to this, beyond the discussion in section 4.4 in the previous Chapter, is that in 2005, the Cyprus Economy had joined the ERM, whereas the accession to the Eurozone was imminent in the next couple of years. Following the discussion on section 4.2.1 regarding the overview of the Cypriot Economy of the previous Chapter, and taking into account as a point in reference, that the 3-month Euribor rate by the end of 2005, as an average, was at 2,21%, while the Cyprus 3-month deposit rate was at 3,82%, a difference of 1,61%, explains the reversal regarding the GDP growth to deposits growth since that period.

By examining thoroughly the deposits in Cyprus however, it is indicated in the Graph 5.4 below, that the biggest and most growing chunk is from foreign residents.

Graph 5.4 Cypriot Banks' Deposits % by Residency

Deposits % by residency

source: Cyprus Central Bank, 2008
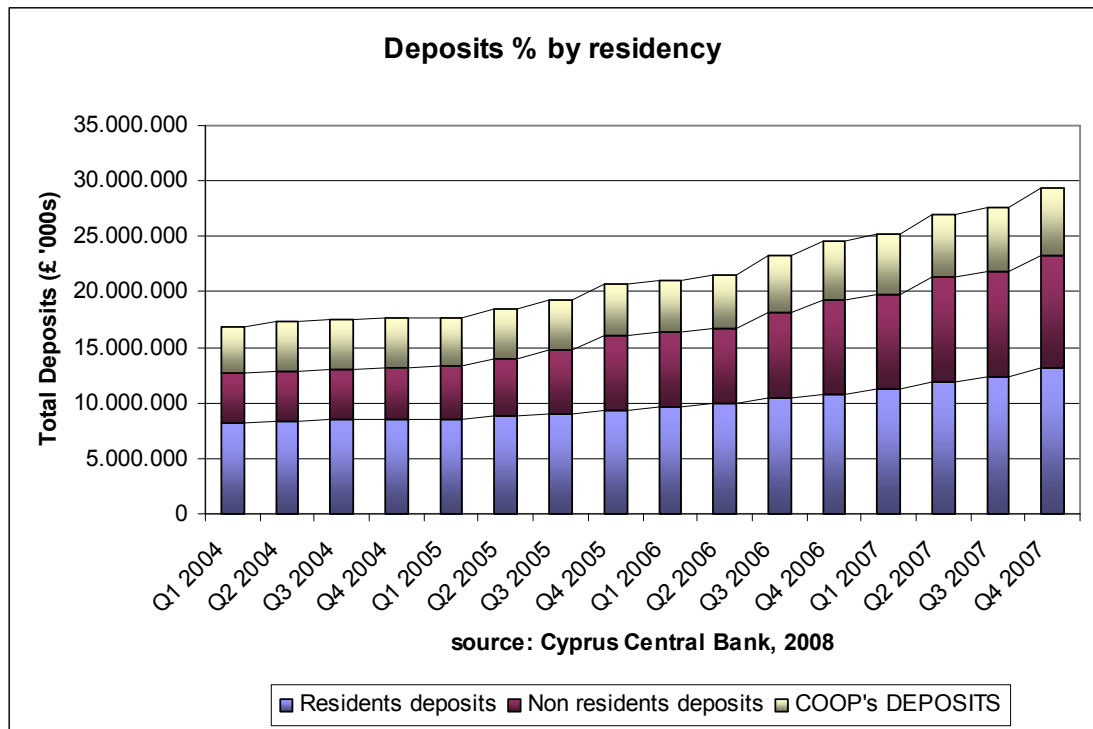
Graph 5.4 above shows the commercial bank's deposit percentage by residency along with the Coop's deposits. An increase in foreign deposits over the last 4 years is noted, but also the increase of resident's deposits in commercial banks in Cyprus. Also it is imminent, that the Coop's are showing signs of marginal growth. In percentage numbers, the Coop's deposits seem to grow marginally, but in reality the actual percentage amount of Coop's deposits compared to the total amount is losing ground fast and is declining.

Examining the audited statistical data for the Coops for the previous 3 year period, the fact that there are no non resident deposits held is taken into account. The foreign deposits are primarily held with the commercial banks in Cyprus. Therefore, looking at the total numbers, which include

the Coop's deposits, any conclusions can be misleading in terms of capital adequacy of the Cyprus commercial banks.

To get a clearer picture of the deposits held by the commercial banks, Graph 5.5 below exhibits the total deposits excluding the Coop's. As it is shown, the deposit growth for the Cyprus Commercial Banks is strong and is following an upward trend for the last 12 quarters.

Graph 5.5 Cypriot Banks' Deposits Excluding Coop's
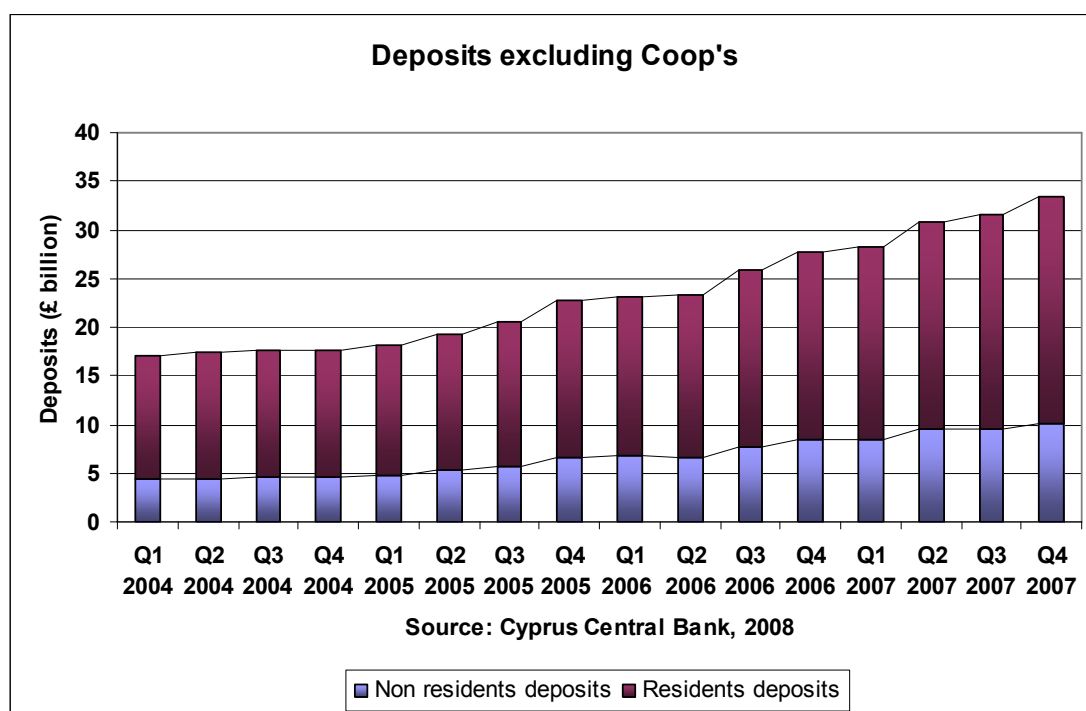
Over this period and in actual numbers, the non resident's deposits have more than doubled, from £4,392 billion at Q1 2004 to £10,15 billion by the end of 2007, posting an increase of 231,00%. The resident's deposits showed also strong growth, from £12,642 billion at Q1 2004 to £23,33 billion by the end of 2007, an increase of 184,00%. The deposits per capita excluding the foreign depositors amounted to €50.614.

In a more thorough investigation of the Cypriot banks' deposits, Graph 5.6 exhibits the analysis of the time deposits for the banking sector in Cyprus. It is noted that during the last 4 years, the deposits from 7 days to 3 months reached over 50,00% compared to 40,00% in the beginning of the period in focus. The opposite scenario happened to the deposits 6 to 12 months that dropped from 38,00% in the first quarter of 2004 to 25,03% by the end of 2007. Although there are fluctuations in the other deposits time series, the obvious trend, for the period under study is for depositors to hold their deposits for 3 months maximum.

Graph 5.6 Cypriot Banks' Analysis of Time Deposits
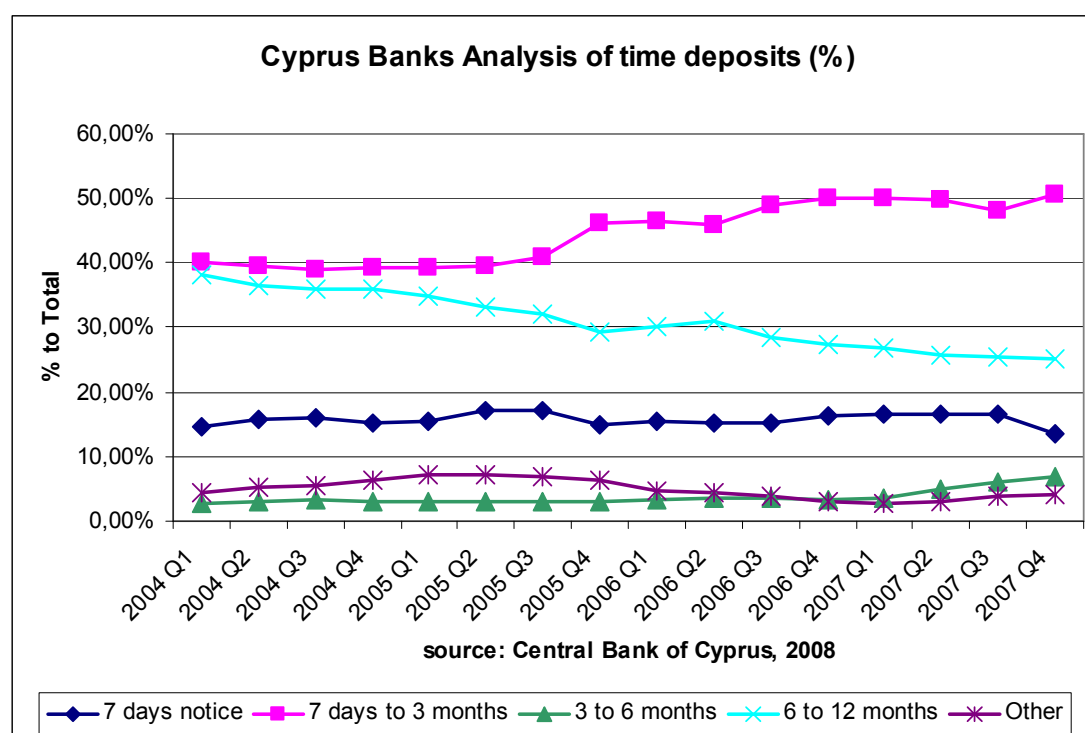
The reader should also note at this point, that Cypriot clients were characterised by their long term preference in their deposits maturity. The analysis of the time deposits as indicated above, includes also the non-residents were the majority of them is held on short term deposit accounts

(current, 7 days notice and 7 days to 3 months). However, the time analysis performed in this section reveals that there is a shift in time preference for the Cypriot clients.

5.4.1 Growth Driven by Deposits:

Looking at the Monetary Survey report of the Cyprus Central Bank under the "Summary of Assets and Liabilities", (where the bulk of the data was obtained for the purposes of this Chapter), it is clear that total deposits, €52,51 billion as at 31/12/07, outweigh the total loans, €41,21 billion as at 31/12/07. An amount of €20,22 billion regards non residents' deposits and €7,02 billion in loans regards non residents' loans. Moreover as of 31/12/07, the Cypriot Banks posted €21,19 billion as foreign assets. The ratio of loans/deposits for the Cypriot Banks stood at 0,78 times. The constant inflow of deposits combined with an accelerated and rapid growth from foreign residents provided adequate capital for the Cypriot banks to expand outside their limited geographic region. However, this dependency has risks, since the expansion is at an infant stage and it has not proved self-sustained yet. Moreover, the expansion was performed 7 years ago, at a stage that the Euro Area and Cyprus not only enjoyed a favourable economic environment but also grew at a fast pace.

5.5 Cyprus Tax Regime and Foreign Direct Investment:

Looking more deeply for the reasons that the foreign deposits are escalating to the Banking sector, it is noteworthy to mention that Cyprus has one of the lowest corporate tax regimes in the Euro Area. For the

2007 the Euro Area average was 28,50%, while Cyprus maintained a 10,00% corporate tax on income (Eurostat, 2008).

The flow of Foreign Direct Investment is also reflected money wise in numbers from the Cyprus Investment Promotion Agency (CIPA). In 2004, the foreign direct investment to the island amounted to $1.090 billion, in 2005 $1.214 billion, while in 2006 the foreign direct investment amounted to $1.492 billion (UNCTAD, 2007).

In particular, amongst the reasons it promotes for investing in Cyprus, the CIPA, specifically lists the following tax reasons for investing in Cyprus: I have extracted the following list from the internet site of CIPA (http://www.cipa.org.cy/easyconsole.cfm/id/1) that specify the reasons for investing in Cyprus:

- lowest corporate tax rate in the European Union at 10,00%
- one of the lowest top statutory personal income tax rate at 30,00%
- extensive double tax treaties network with over 40 countries, enabling lower withholding tax rates on dividend or other income received from the subsidiaries abroad
- no withholding tax on dividend income received from subsidiary companies abroad under certain conditions
- no withholding tax on dividends received from EU subsidiaries
- no withholding tax on capital gains and income on the disposal of neither the shares of the subsidiary's share capital nor the shares of the Cyprus holding company
- no tax on capital gains or income on the liquidation of the Cyprus holding company
- no withholding tax on distribution of profits
- outward dividends by the Cyprus Holding Company to its non-resident shareholders are exempt from any withholding taxes

- profits earned from a permanent establishment abroad are fully exempt from Cypriot tax, subject to certain conditions
- a diversified group of Cyprus companies belonging to a Cyprus holding company can set off Group relief for the utilisation of tax losses
- no minimum holding period

Following the discussion from Chapter 4 regarding the Cyprus economy and the shift of the productive and human resources to the services sector, the latest efforts of the previous and the existent government is to upgrade the civil services offered to manage and to adequately support the private sector that is expanding in the financial, secretarial, legal and auditing services for foreign companies.

5.6 Euro Area's MFIs Deposits:

The deposit growth in the Euro Area was also exceptionally strong over the last 9 years, as it is shown in Table 5.5 below. In particular, the total deposits to the GDP percentage has been steadily increasing, and by the end of 2007 stood at 79,60%.

Table 5.5 Euro Area MFI's Deposits

	1999	2000	2001	2002	2003	2004	2005	2006	2007
EU GDP (€trillions)	6,25	6,438	6,871	7,097	7,178	7,469	7,809	8,217	8,722
EU GDP (% growth)	2,90%	3,90%	1,90%	0,90%	0,80%	2,10%	1,70%	2,80%	2,60%
EU MFI's Deposits (€trillions)	6,05	6,24	6,57	6,74	7,07	7,53	8,25	8,98	9,97
EU MFI's Deposits % growth)	4,31%	3,10%	5,20%	2,50%	4,89%	6,50%	9,50%	8,84%	11%
Total Deposits to GDP (%)	97%	97%	96%	95%	99%	101%	106%	109%	114%

source: Eurostat, European Central Bank, 2008

Since 2001, the deposits growth has been outperforming the GDP growth and since then, the specific ratio is on an upward trend. This is evident and it is visually represented in Graph 5.7 below. The deposits growth has been outperforming the Euro Area's GDP growth throughout the period under observation.

Graph 5.7 Euro Area MFIs' Deposits Growth to GDP Growth

EU MFI's DEPOSITS TO GDP (%growth)

source: Eurostat, European Central Bank, 2008

EU GDP (% growth) ■ EU MFI's Deposits % growth) ■ Total Deposits to GDP (%)
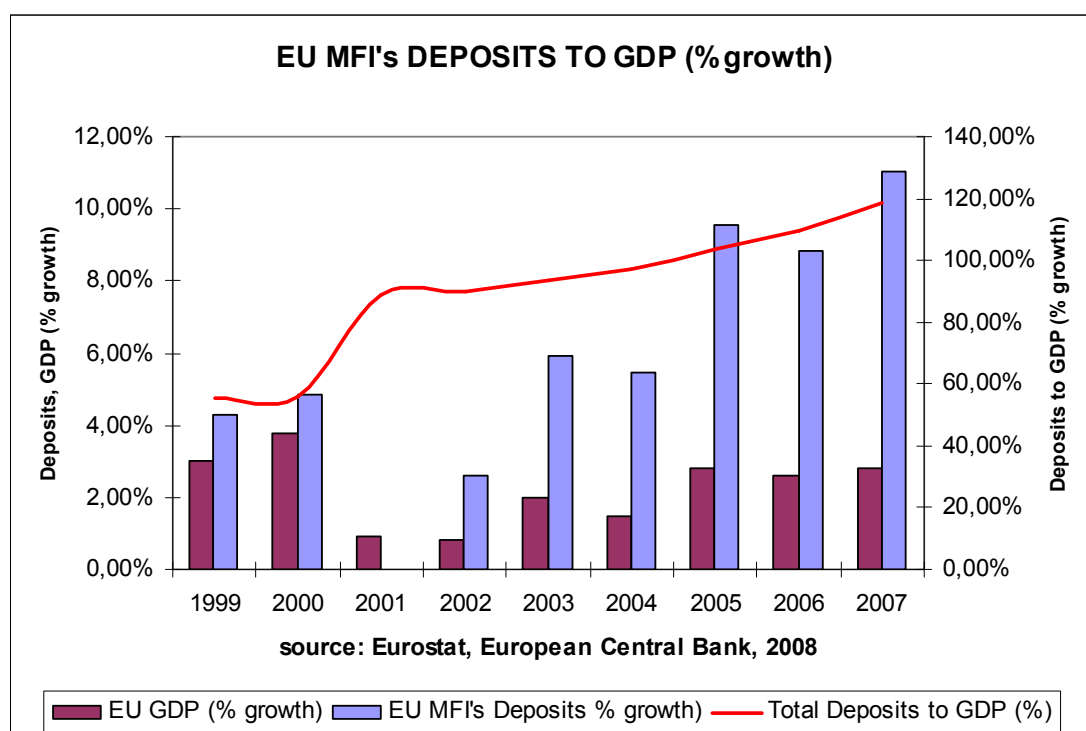
The total deposits per capita for the 2007 year amounted for €22.148. Comparing this number with the case of Cyprus, even if the non-residents deposits are not calculated in the deposits per capita, the deposit amount per capita sums up to €42.164, posting a considerable difference compared to the Euro Area statistic, €22.148 per capita. In an effort to explain this huge difference per capita that exists between Cyprus and Europe, I looked up the saving habits of the European residents from

Eurostat, the European Statistical Service. At the end of 2007, Eurostat posted a household saving rate of 14,00%. The household saving rate is calculated in percentage (%) as gross saving / gross disposable income. Unfortunately, the Cyprus Statistical Service does not keep this type of data, thus no comparisons and conclusions could be driven from verified source due to lack of evidence.

A look at the Euro Area MFIs analysis of time deposits surprisingly reveals that the opposite picture exists regarding the case of Cyprus time deposits analysis. As illustrated in Graph 5.8 below, the deposits with agreed maturity up to 2 years is shifting on a positive trend since the first quarter of 2006, while the deposits redeemable at notice are moving lower since the first quarter of 2005.

Graph 5.8 Euro Area MFI's Time Analysis of Deposits
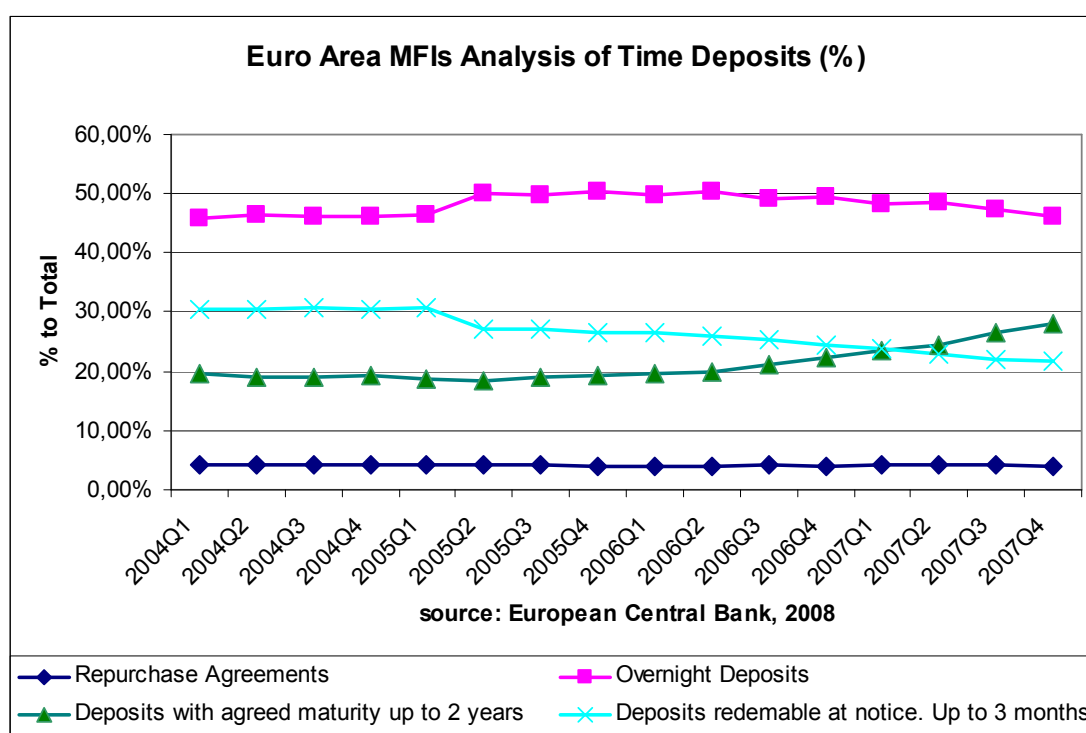
What should be accounted from the above Graph though is that the majority of the Euro Area residents still hold the majority of their deposits in short term deposit accounts (repos, overnight deposits and deposits redeemable at notice up to 3 months). What is concluded, from the time analysis of the deposits for the Cypriot banks and the Euro Area MFIs is that the trends are shifting in an opposite direction.

A first attempt for explaining the obvious differences in the deposits of the banking sector for both Areas is that Cyprus has one of the most favourable and advantageous tax regimes in the Euro Area. However, in the next Chapter, it is revealed that the trends are opposites because of the interest rate disequilibrium that the Cyprus Banking Institutions had before entering the Euro Area.

5.7 Euro Area and Cyprus Banking Sector Loans:

During the last four years, the loan growth of the Cyprus Banking sector was expanding fast. As it is shown in Table 5.6, at the end of 2004, the total loans amounted to £12,59 billion (€21,51 billion), while by the end of 2007, the total loans amounted to £20,57 billion (€35,15). The Total loans to the GDP ratio were at 2,26 times, posting an increase of 30,00% in only one year.

Table 5.6 Cyprus Banks Total Loans

	2004	2005	2006	2007
Cyprus Banks Total Loans (€ billions)	19,17	21,94	24,63	33,19
COOP's Total Loans (€ billions)	5,60	6,12	6,78	8,02
COOP's Loans to Total (%)	22,60%	27,89%	27,52%	23,59%
TOTAL LOANS (€ billions)	24,77	28,06	31,41	41,02
TOTAL LOANS growth (%)	13,60%	13,30%	11,90%	30,60%
Cyprus GDP (€ billions)	12,66	13,46	14,39	15,56
Total Loans to GDP ratio	1,95	2,08	2,18	2,63

Source: Cyprus Central Bank, Statistical Service of Cyprus

As in the case of the deposits, discussed in section 5.4, looking at the Coop's loan growth to the total loans, it is noted that the actual volume in numbers is increasing but nevertheless, the actual percentage to the total loans is steadily decreasing. In essence, the local commercial banks are gaining loans from the Coop's.

Examining the total lending of Cypriot Banks to GDP, the total loans to the GDP grew fast in 2006 and 2007 and overall during 2007 the loan growth reached 31,10%. The per capita loan amount for the end of 2007 adds up to £26.120 or €44.628.

The question on hand now is where does all this credit go? A glance at Graph 5.9 below reveals the distribution of the bank credit.

Graph 5.9 Cyprus Sector Distribution of Bank Credit

Cyprus Sectoral Distribution of Bank Credit as at 31/12/2007

☐ Public inst. and corporations	☐ Agriculture	☐ Mining
☐ Manufacturing	☐ Transport and communications	☐ Foreign and domestic trade
☐ Building and construction	☐ Tourism	☐ Personal and professional loans
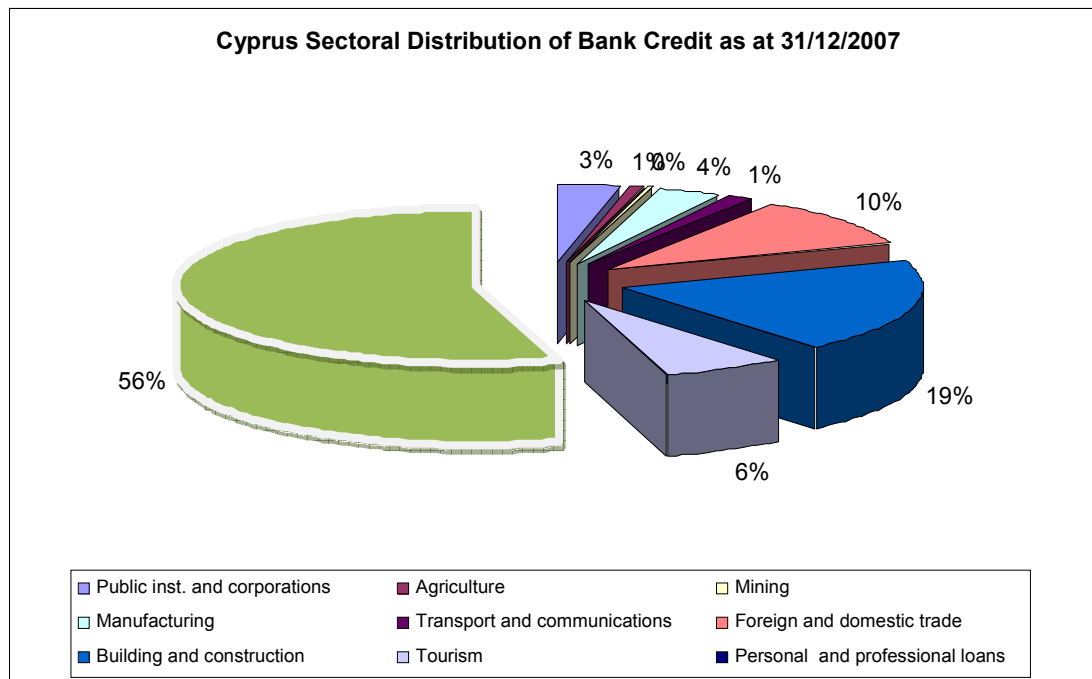
Source: Cyprus Central Bank (2008)

Most of the Loans in Cyprus are absorbed through the personal and professional sector (56,00%), the building and construction sector absorbed 19,00% and the third biggest sector, foreign and domestic trade had a 10,00% of the total loan share. Unfortunately, the Cyprus Central Bank does not provide any compatible data with the European Central Bank, in regards to the maturity of the loans for each specific sector, therefore additional analysis on the subject is limited for the time being.

Fortunately enough the ECB and the Cyprus Central Bank hold however, compatible data in terms of institutional sectors. The pie chart in Graph 5.10 below, illustrates the distribution of the banking credit by institutional sector, as adapted by the ECB.

Graph 5.10 Cyprus MFI Loans by Sector

Cyprus MFI Loans by Sector
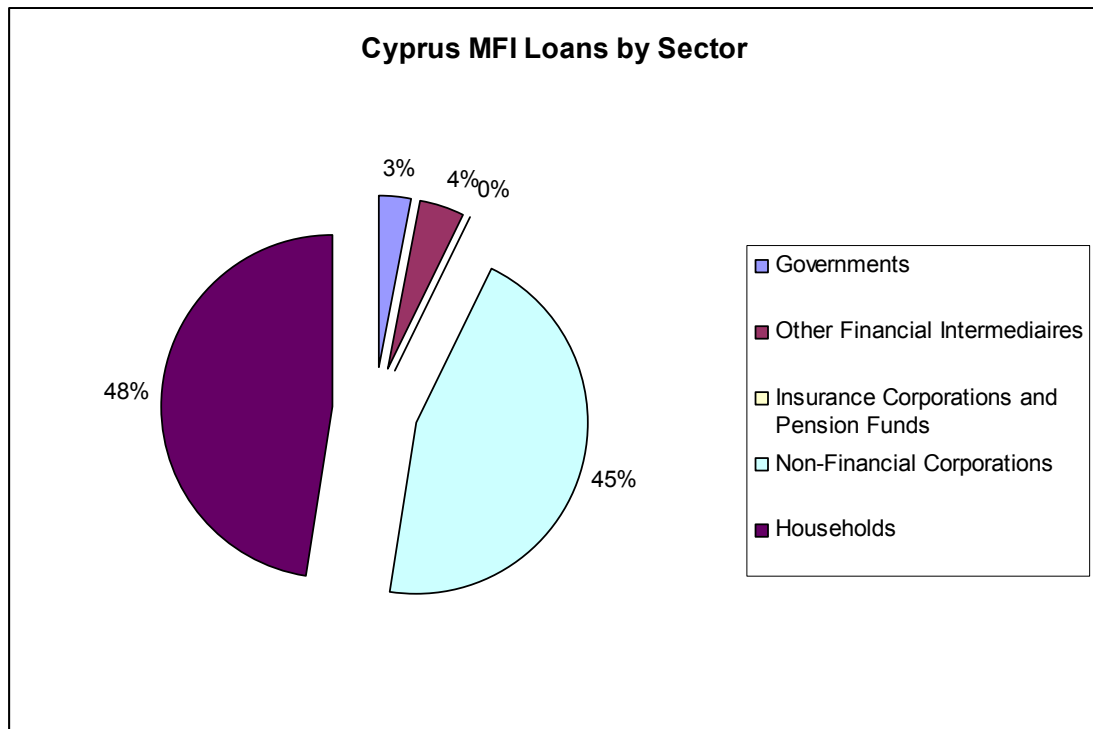
Source: Cyprus Central Bank (2008)

Looking at the Cypriot banks' loans by institutional sector, it is noted that the disbursement of the loans is between the household sector and the non-financial corporations. The Government sector stands at a merely 3,00% and it clearly has a disproportionate weight compared to the Euro MFI loans by institutional Sector (see Table 5.7 and Graph 5.12). As it is revealed from Table 5.7 below, the household sector was in the spotlight for the Euro Area MFI's with over €4,81 trillion or a percentage of 38,20% of the Total MFI loans. The next most important sector was the non-financial corporations, €4,38 trillion or 34,80% of the total. These two sectors alone contribute to more than 73,00% of the total MFI loans up to the end of 2007.

Table 5.7 Euro Area MFI Loans by Sector

Euro Area MFI Loans by Sector (€trillions)		
Sector	Percentage to Total Loans (%)	€trillions
Governments	16,12%	1,95
Other Financial Intermediaries	7,10%	0,867
Insurance Corporations and Pension Funds	0,79%	0,095
Non Financial Corporations	36,24%	4,38
Households	39,75%	4,81
Total MFI Loans		**12,10**

Source: European Central Bank (2008)

Graph 5.11 Euro Area MFI Loans by Sector
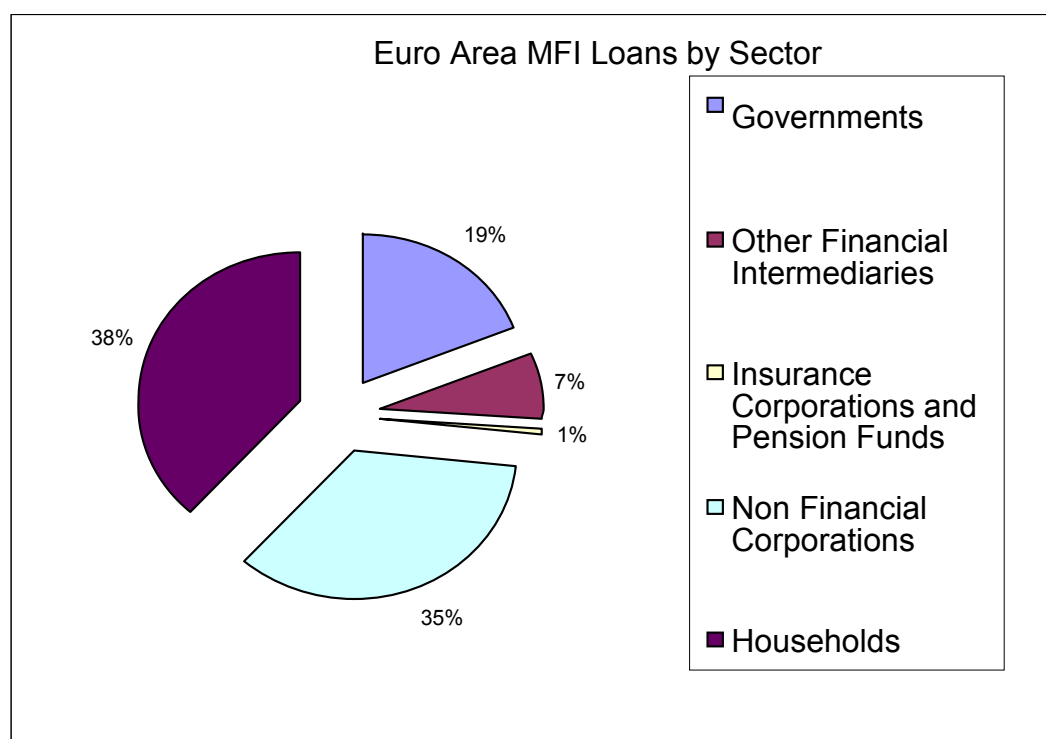
Source: European Central Bank (2008)

The loans in the Euro Area have been growing steadily and have been outperforming consistently the Euro Area GDP growth since 2000. The total loans to GDP ratio, by the end of 2007 stood at 1,39 times, as it is illustrated in Table 5.8 below. Moreover, it can be noted from the same Table below, that the growth of the loans is proportional to the GDP

increase. For instance, during the last eight years, since 2000, the Euro Area GDP expanded by 34,90%, while the total loans expanded by 63,00%. Specifically, for the last four years the Euro Area GDP expanded by 11,69% while the Euro Area total loans accelerated by 34,20%. To compare evenly with the banking in Cyprus and as Table 5.6 reveals, during the last 4 years, the Cyprus' GDP grew by 22,90%, while the Cypriot bank's loans grew by 63,40%.

Table 5.8 EU MFIs Total Loans

	2000	2001	2002	2003	2004	2005	2006	2007
EU GDP (€trillions)	6,438	6,871	7,097	7,178	7,469	7,809	8,217	8,722
EU GDP (% growth)	3,90%	1,90%	0,90%	0,80%	2,10%	1,70%	2,80%	2,60%
EU MFI's Total Loans (€trillions)	7,42	7,94	8,17	8,5	9,01	9,89	10,85	12,1
EU Total Loans (% growth)	6,54%	7,00%	2,89%	4,03%	6,00%	9,76%	9,70%	11,52%
Total Loans to GDP	1,15	1,16	1,15	1,18	1,21	1,27	1,32	1,39

Sources: European Central Bank, Eurostat (2008)

The loan per capita for the Euro Area citizens amounted to €39.331, 13,46% lower than the Cypriots' loan per capita that amounted to €44.628 in absolute numbers. The loans to deposits ratio for the Euro Area MFIs stood at 1,21 times compared to 0,78 times for the Cypriot banks.

For both economies, the banking sector displays a positive correlation between the GDP and the loan growth. The uneven numbers in the loan growth have to do with more specific factors like the clientele base and the special market characteristics. As described in Chapter 2 in my literature review, Affinito et al (2006) argue that the interest rates across the Euro Area are not distributed uniformly. These national differences can be partially explained because of the special characteristics of domestic

depositors and borrowers. These factors such as risk exposure, disposable income, alternative financing sources, average firm size, banking market concentration, asset and liability structure differ from one member state to the other. Furthermore, these factors are subject to further research, as the banking integration of the Euro Area in terms of political, economical and social convergence is maturing in the depth of time.

5.8 Remarks and Conclusions of Chapter 5

In this Chapter, a comparison of the banking structures between the Cypriot banks and the Euro Area MFIs was conducted. The major differences of the two banking sectors were outlined, compared and assessed. Furthermore, and more importantly, the level of the deposits and loans was put under perspective. Table 5.9 below is summarising the main facts about the two sectors as identified during the research process in this Chapter.

Table 5.9 Cypriot and Euro Area MFIs Deposits and Loans

As at 31/12/07	Cyprus	Euro Area
Deposits to GDP	3.37	1.14
Deposits per capita (€)	64.444	22.148
Loans to GDP	2,63	1,39
Loans per capita (€)	44.628	39.331
Loans to Deposits per capita	0.69 x	1.77 x
Loans to Deposits per GDP ratio	0.78 x	1.21 x

Source: European and Cyprus Central Banks (2008)

The major findings of the research conducted on the Cypriot and the Euro Area MFIs are outlined below:

- The number of credit institutions in Cyprus is rapidly shrinking due to the consolidation of the Coop societies. The same trend appears in the Euro Area also, regardless of the Euro Area enlargement in 2001 and 2008. Overall, the number of the credit institutions is shrinking while their total assets are expanding, thus signalling the emergence of larger institutions.

- The loan and deposit annual percentage growth for both Areas is growing faster than their respective GDP growth.

- The Cypriot banking sector, as at 31/12/07, is growing faster compared to the Euro Area MFI sector. In particular, the deposits for the Cypriot banks are growing faster than the Euro Area MFIs. Total deposits per GDP stood at 3,37 times in Cyprus vs 1,14 times in the Euro Area. Moreover, the loans for the Cyprus Banks are growing faster than the Euro Area MFIs. Total loans per GDP stood at 2,63 times in Cyprus vs 1,39 times in the Euro Area.

- The deposits per capita are higher in Cyprus, by an amount of €42.296.

- The loans per capita are higher in Cyprus, by an amount of €5.297.

- The majority of deposits in Cyprus are maturing after a 3 month period, while in the Euro Area are maturing at a shorter period. However, opposite trends are identified. In Cyprus the 3 month deposit accounts are gaining at the expense of 7 days notice and 3 months notice accounts. In the Euro Area the two year notice

- accounts are gaining against overnight deposits and deposits redeemable at notice up to 3 years.

- Most of the loans in Cyprus are dispersed between the Household (48,00%) and the Non-financial Corporations (45,00%) sectors while in the Euro Area is dispersed to the General and Local Governments (19,00%) the Household (38,00%) and the Non-financial corporation (35,00%) sectors.

- The concentration, Herfindahl Index, of the banking sector in Cyprus is just a little bit above the Euro Area average. This implies that the Euro Area banking sector is more competitive compared to Cypriot banking sector.

- Cypriot banks appear "overcrowded" with staff compared to the Euro Area average. The main reasons are the on going consolidation of the Coops, that is happening but at a very slow pace, and the particularity of the Cypriot banking branches, in terms of the product mix offered.

- Cyprus has one of the lowest corporate tax regimes in the Euro Area, making it an attractive place to invest or to set up corporate operations. Foreign deposits in the island stood over €17,34 billion and accounted to more than 34,00% of the total deposits for the Cypriot banking sector.

The end of this Chapter marks the end of the half way point of my project research. The comparison and evaluation of the Cypriot and Euro Area MFIs structures identified the major factors that are shaping up their

current structural operating environment. Factors such as the competition, the relevant growth of deposits to the GDP growth, the level of assets and number of employees and the Cypriot tax regime are the main reasons for the structuring differences between the Cypriot banks and the Euro Area MFIs.

Moreover the level of the deposits and loans of the institutional sectors, for both areas was identified, since the next Chapter will primarily focus in the spreads that exist between them. Also, the main institutional sectors (household, non financial corporations and the government sectors) are identified. In the next Chapter the level of deposit and loans with their respective rates will be examined. It is the most important Chapter since it will result in specific conclusions about the level of the deposit rate and lending rate spreads (the difference of the lending to the deposit rate) between the two Areas. Specifically, the specific sectors mentioned above, are compared critically since they are vital for banking operations in the Euro Area and also in Cyprus. The comparison involves the difference between the deposit rate to the lending rate for each sector and it also involves time analysis of the spreads involved.

The end of the next Chapter, in essence will complete the project research with specific facts and findings regarding the pricing policy of the Cyprus's banking sector accession into the Euro Area.

CHAPTER 6

THE PRICING FACTOR OF THE CYPRIOT BANKS

AND THE EURO AREA MFIs

6.1 Introduction:

This Chapter focuses on the problem on hand, the pricing factor of the Cypriot banks compared and assessed to their Euro Area counterparts. As described in the early stages of my project study, the economies and the banking structures between Cyprus and the Euro Area had to be critically assessed and compared to each other, in order to understand the factors and the different characteristics that shape up the pricing policy of banking institutions in Cyprus and also in the Euro Area.

In the Annex section of my project report, I have concluded the description of a bank's assets and liabilities, in order to clarify the different factors that shape up the level of the deposit and the lending rates. More specifically, a bank is profitable if it hands out loans at a lending rate that is higher than the rate on the received deposits. There are a number of factors that affects the cost of money such as the cost of deposits and capital, the provisions for doubtful debts, cost of funds, operating structure and market structure. These factors are subject to further research, as mentioned in the literature review in Chapter 2 (Perez et al (2005), Bos et al (2006), Lozano-Vivas et al (2001), Bos and Kolari (2005), (Cetorelli, 2001) and Leuvensteijn et al (2007)). These factors are also described in my Annex section, if the reader wants to get more acquainted with the detail involved

in the cost of money. The project study does not consider these factors for the conclusions and recommendations but again stresses the fact that there are differences in each member state that percolate to the economies which shape the diversity of these levels.

The rest of the Chapter is devoted to the level of the deposit and lending rates for the household, consumer spending, non financial organizations (NFC) and government sector. The differences of each rate for the specific institutional sectors are identified. Furthermore, the real differences in the spreads, the net interest margin are compared between the Euro Area and Cyprus. This thorough assessment of the different deposit and lending rates of the institutional sectors, will lead to conclusions and recommendations that are presented in the next and last Chapter.

6.2 The Pricing Factor Issue:

A bank's profit plan comes from a) function cost analysis, b) pricing, c) budgeting, d) goals and timetables and e) delegation of responsibility.

The project will literally put the pricing factor (as a bank's strategy for sustained growth) under the microscope. The pricing involves loan pricing, deposit pricing and customer profitability. For a financial institution to have a successful pricing model, it has to allocate its resources to the most profitable and sustained (in terms of growth) sectors of the economy.

This has a two-fold advantage. First, the proper allocation of resources will provide higher yields on investments and second, the available resources will not vanish in doubtful debtors and bad debts.

As mentioned in the introduction, the project is primarily concerned with the spreads, the differences of the interest rates, of loans and deposits in the Euro Area and in Cyprus. The project is not concerned about the level of efficiency, provisions, operational costs and bank management. These factors are subject to further research between the two sectors.

Furthermore, the research project approaches the subject in a theoretical perspective. Practically for a bank, the spread is not the actual interest rate difference between loans and deposits. Interest rate deviations occur from mismatches of the interest rate movement and the maturity of the deposits and loans. It is common practice for banks to hedge against these interest rate deviations that result in interest rate exposure, through interest rate swaps.

This Chapter will concentrate and focus on the margins of the basic sectors of the Cyprus and Euro Area banking industry. Since the principle of the pricing factor is in plain terms the difference between the interest rate margin spread in deposits and loans, I will look into the sectors of households (including the consumer credit) and the non financial corporations which make 73,00% of the total market share in the Euro Area MFI's and 93,00% of the Cyprus banking industry. Furthermore, the study also involves the government sector, since it contributes almost

8,00% of the total loans of the Euro Area MFIs and 4,00% for the Cypriot banks.

6.3 The Interest Rate Environment in the Euro Area and Cyprus:

In order to proceed with the analysis, it is important to identify the level of the "real" deposit rates, in the Euro Area and in Cyprus. Banks finance their loan operations through deposits, and in cases they hold excess deposits, they manage them through the interbank market. This happens in the Euro Area. In the case of Cyprus, the Cyprus Central Bank (CCB), prior to 1/1/08, set the "marginal lending facility" as a benchmark for the local bank's financing activities. Table 6.1 below, shows the level of the commercial bank's deposit rates as reported by the CCB, as at 31/12/07. Also, the base rates set by the CCB, which are the overnight deposit facility rate and the maximum bid rate on the liquidity absorbing open market operations are tabulated.

Table 6.1 Overview of Deposit Rates in Cyprus

Cyprus Commercial bank Deposit Interest Rates as at 31/12/2007		%
Deposit rates (%)	Current accounts	0,32
	3 month notice – over CYP5000	3,24
	1 year fixed deposits - over CYP5000	3,55
Central Bank Interest Rates as at 31/12/2007		%
Overnight deposit facility rate		3,00
Maximum bid rate on the liquidity absorbing open market operations		4,00

Source: Cyprus Central Bank, 2008

The above Table however, is just a snapshot of the deposit rates as at 31/12/07. Nevertheless, at an unscheduled meeting of the monetary

policy committee of the Central Bank of Cyprus on the 21st of December 2007, for the purpose of full harmonisation with the official interest rates of the ECB, the following decision was taken:

> The minimum bid rate on the main refinancing operations decreases by 0.50 percentage point to 4,00%. The interest rate on the marginal lending facility and the interest rate on the overnight deposit facility remain unchanged at 5,00% and 3,00% respectively. In parallel, taking into account recent questions and concerns regarding the base rate of banks applicable for existing floating-rate loans in Cyprus pounds, the monetary policy committee determined, pursuant to 40(1)(c) of the Central Bank of Cyprus Law, that with immediate effect, the base rate of banks for such loans shall be the minimum bid rate on the main refinancing operations. It is clarified that with the conversion of these loans into euro, in accordance with the Euro Adoption Laws, 2007, the base rate applied shall be the minimum bid rate on the main refinancing operations of the European Central Bank (Cyprus Central Bank, 2007).

Just before the end of 2007 and before Cyprus' accession to the Euro Area, the CCB essentially decreased the lending facility by 50 basis points, while the deposit facility remained unchanged. Table 6.2 below shows the effect of this decision on the existing (at than time) base rates. For each date of the monetary policy decision, the base rates are identified. The rates that affect the open market operations and more particular in our case, the rate on the main refinancing operations is pegged to the loans that commenced prior to the adoption of the euro currency (the highlighted section). The level of the rates of the CCB was altered by the monetary policy committee as follows:

Table 6.2   Cyprus Central Bank's Monetary Policy Decision as at
21/12/2007

Date of Monetary Policy decision	Deposit facility	Open Market Operations			Marginal lending facility
		Main refinancing operations	Liquidity absorbing operations		
		Repo operations	Reverse repo operations	Acceptance of deposits operations	
		Min.bid rate	Max.bid rate	Max. bid rate	
6/6/2007	3,00	4,50	4,50	4,50	5,00
21/12/2007	3,00	4,00	4,00	4,00	5,00

Source: Central Bank of Cyprus, 2007

It is mentioned a number of times in the study that Cyprus accession to the Euro Area was handled as a political issue from the local political parties. Political pressure that resulted from false expectations regarding the level of the lending rates (because the level of the ECB rates were at lower levels from the Cyprus Central Bank during 2007 and it was cultivated in the local public that the interest rates would surely fall after Cyprus accession to the Euro Area) has in effect played a decisive role in the CCB monetary policy decision.

Taking into account that the total loans of the Cypriot commercial banks by the end of 2007 stood at £15,99 billion Cyprus pounds (excluding the Coops), the 50 basis points effect accounted for over £79,95 million Cyprus pounds (€136,66 million) in loss of net interest income. The main reason for this is that the existing loans were not pegged to the euro currency and the euribor rates and in effect the CCB had to take a hard decision. Of course on the other hand, the Cypriot commercial banks

argued that the rate of the existing loans should be kept at their discretion and it should be pegged to their "basic" interest rate.

The deposits of the Cyprus commercial banks were not really affected through this decision, since for both central banks the deposit facility was the same and the interbank market rates were close to the euribor rates. A glance at Tables 6.1 and 6.2 reveal that the level of the overnight deposit facility for both areas is the same. Therefore, even if a Cyprus commercial bank was not pegged to the interbank market but to the ECB deposit rate, the CCB's decision would have no significant impact on the deposits held.

Further to the discussion above with regards to the level of the base rates as set by the CCB, Tables 6.3 and 6.4 below show the level of the deposit rates in the Euro Area and in Cyprus as at 31/12/07. The CCB reports the deposit rates of the current accounts, the 3 month notice and the 1 year fixed deposit accounts.

Table 6.3 Overview of Deposit Rates in Cyprus

Cypriot commercial bank interest rates as at 31/12/07	%
Current accounts	0,32
3 month notice	3,24
1 year fixed deposit	3,55

Source: Central Bank of Cyprus, 2008

Clearly for comparative purposes and as displayed in Table 6.4, the level of the deposit rates under consideration for the Euro Area MFIs is the overnight deposit rate for households and non-financial corporations

(NFC), up to 3 months notice for households and up to 1 year with agreed maturity for NFC.

Table 6.4 Overview of Deposit Rates in the Euro Area

Euro Area MFIs Deposit Interest Rates as at 31/12/07		%
Deposit Rates (%)	EU overnight - households	1,18
	EU overnight - non financial corporations	1,95
	up to 3 months notice - households	2,57
	EU - up to 1 year with agreed maturity - from non financial corporations	4,26
Euribor Rates as at 31/12/07 (percentages per annum)		%
Interbank offer rate (overnight)		4,35
Interbank offer rate (3-month)		4,58
Interbank offer rate (12-month)		4,77

Source: European Central Bank, 2008

In order to have a clear picture and understanding of the different levels of the deposit rates between the Euro Area and the Cypriot banks, Table 6.5 below is prepared. Moreover, for this type of analysis, the benchmark used for Cyprus current accounts is the 3,00% overnight deposit facility rate and for the 3 month and beyond deposits is 4,00% the minimum bid rate for refinancing operations (see Table 6.1). For the Euro Area the benchmarks are the euribor overnight, 3 month and one year interbank rates as presented in Table 6.4.

A simple comparison on the deposit rates (Table 6.5) reveals that the Cyprus banks have a considerable advantage over the current accounts, but the spreads on the 3 month fixed and the 1 year fixed deposits are squeezed to 76 and 45 basis points respectively. However, and as

identified in section 5.4 on the analysis performed of the deposits in Cyprus, the shift from the 1 year deposits to the 3 month notice accounts appears to have an advantage to the Cyprus banks. This is due to the 31 basis points spread difference between the 3 month and 1 year fixed deposit rates.

Table 6.5 Spread Comparison of Deposit Rates

CY		EU		Difference (in basis points)
Deposit type	Spread	Deposit type	Spread	
Current Accounts	268	Overnight (Households)	317	49
Current Accounts	268	Overnight (non financial corporations)	240	-28
3 month notice	76	Up to 3 months notice (households)	201	125
1 year fixed deposits	45	Up to 1 year with agreed maturity (non financial corporations)	51	6

Sources: Cyprus and European Central Banks, 2008

Considering the squeezed margins of the Cyprus Banks and taking into account the analysis so far, the Euro Area MFIs enjoy higher spreads than the Cypriot banks.   Table 6.5 compares the deposit rates, where in essence the overnight spread is 317 basis points (bps) for households and 240 bps for NFCs, to the overnight interbank offered rate.   There is no distinction reported by the CCB on the particular deposit rate between households and NFCs. For the 3 month notice accounts, the spread is 201 bps and for the 1 year accounts with agreed maturity (from non-financial corporations) the spread is just 51 bps.

The Table above reveals the difference between the different type of deposit accounts between the Euro Area MFIs and the Cyprus Banks. The stiffest difference is on the 3 month accounts, while the 1 year fixed deposit account appears harmonised between the two areas.

Although it remains controversial to note that the Cypriot banks were aligned to the euribor deposit facility prior to 31/12/07 and since the deposit facility for both central banks was the same, it is common business practice for banks/financial institutions to achieve favourable spreads through the interbank market, in this case the euribor rate, that appears at higher level as indicated in Table 6.4. Nevertheless, further analysis on the specific matter, can not be performed because of lack of verified data. Therefore, no further analysis with the data on hand can be conducted at this point, but still the spreads on the identified deposit accounts (overnight, 3 month and 1 year) can provide valuable data for the purposes of the project study, as the reader will see in the next sections.

6.4 The Deposit Rates Spreads:

In order to examine the deposit rate spreads further, I had to look into the most common deposit product of the Cyprus and EU banking Industry and I always had to take into account the relevant data on hand. Following my initial analysis of the banking sector in Chapter 5, where the analysis of time deposits revealed that the existing trend in Cyprus is shifting clearly to deposit accounts of 3 month duration from 1 year duration, the three subcategories that I compare are the ones as identified from the previous section of this Chapter. As a reminder to the reader these deposit accounts are the following:

a) CY current account and overnight deposit spreads.

b) 3 month notice and EU up to 3 months deposit rates on households.

c) CY one year fixed deposits (over £5,000 CY pounds) and EU up to

1 year with agreed maturity on non-financial corporations.

(Note for the data used from the European Central Bank: For the deposit categories, new business and outstanding amounts coincide. Also for the deposit categories, households and non-financial corporations are merged and allocated to the household sector, since the outstanding amounts of non-financial corporations are negligible compared with those of the household sector in all participating Member States combined.)

6.4.1 The Deposit Spreads. Can a Benchmark be Obtained?

The analysis performed on this section explores the possibility of reaching a benchmark of comparing the deposit rates for both areas, in the cases that no other data set can be used. The need to consolidate the deposit rates to a benchmark resulted because the CCB does not keep compatible data with the ECB. The ECB provides data on deposits that refer to each sector individually along with the maturity. Also, it provides consolidated incomes and costs for each sector that can easily calculate the net interest margin, NIM, and the total return on the sector. On the other hand, the CCB provides information to the total loans and deposits without taking into account the maturity factor, or the associated income from each sector. This posts a serious compatibility problem in comparing and assessing the different sectors individually along with the perspective loan books. In order to be as precise as possible, a number of different data sets were used, primarily for the Cypriot banks, in order to be as close to

the actual numbers as possible. The data inconsistency for the two areas, suggests that marginal errors could be obtained from the comparison of the different sectors between the two areas. However, all numerical findings were objectively cross checked and verified for their accuracy.

Taking into consideration the deposits' time analysis of the Euro Area performed in Chapter 5, and more specifically that the Euro Area MFIs deposits are more concentrated in overnight accounts, while the Cypriot banks are concentrated more on 3 month notice accounts, the analysis for setting a benchmark (in the cases where nothing else is available) continues. Furthermore, the deposits time analysis revealed that there are two opposite client trends for both areas. In the Euro Area, the 2 year deposits with agreed maturity are gaining to the expense of overnight and 3 month redeemable deposits. On the contrary, the trend in the Cyprus Banking Industry is gaining on the 3 month deposit accounts to the expense of the 6 to 12 month and 7 days notice accounts.

Therefore, in order to set a benchmark deposit rate for both areas, I have used the weighted average of the total loans as at 31/12/2007 in respect to the corresponding interest rate for each type of deposit account. Table 6.6 below, shows the rational that obtains the weighted average rate on deposits for the Cypriot banks:

Table 6.6 The Weighted Average Deposit Rate in Cyprus

Deposit Acct Type	7 days notice	7 days to 3 months	3 to 6 months	6 to 12 months	Other	W.A. rate on deposits
% to Total Deposits	13,45%	50,65%	6,80%	25,03%	4,06%	
Deposit rate	1,25%	3,24%	3,57%	3,55%	0,32%	**2,95%**

Source: Cyprus Central Bank, 2008

The levels of deposits were allocated as a percentage to total, to the different deposit accounts by type of maturity. This resulted percentage is used as the weight in respect also to the deposit rate that each account is bearing. The last column shows the calculated weighted average rate on deposits, 2,95%.

The weighted average on deposits will be used in cases where no other data is available.

For the Euro Area, the calculation of the weighted average deposit rate was a little bit more complicated, because of the different deposit rates involved for the household and the non-financial corporations sector and the different type of accounts. Therefore, in the case of the Euro Area MFIs, two different data sets were used and combined: one data set for the household sector and one for the NFC sector. Following the exact rational and approach as in the case of Cyprus, the following Table was constructed:

Table 6.7 The Weighted Average Deposit Rate in the Euro Area

Deposit Acct Type		Repurchase Agreements	Overnight Deposits	Deposits redemable at notice. Up to 3m	Deposits with agreed maturity up to 2 years	W.A. rate on deposits
% to Total Deposits		4,00%	46,14%	21,78%	28,08%	
Households Deposit Rates	**Repo rate**	3,95%				
	Overnight		1,18%			
	Up to 3m			2,57%		2,16%
	up to 2 years				3,18%	
Non Financial Corporations - Deposit Rates	**Repo rate**	3,95%				
	Overnight		1,95%			
	Up to 3m			2,57%		2,75%
	up to 2 years				4,03%	
Weighted Average on Deposits for Households and Non-Financial Corporations						**2,30%**

The Table above indicates that the weighted average rate on deposits for households is at 2,16% and for the NFCs is at 2,75%. The weighted average for the household and the NFC sectors combined regarding the Euro Area on the total deposits held is at 2,30%.

These calculated weighted averages on deposits will be used in the case where there is no available data or information for the spread calculation. Theoretically, that means that the Cyprus Banks are aggravated by 65 basis points more than the Euro Area MFIs. This means that the Cyprus Banks are financing their loan operations at a higher cost compared to the Euro Area.

In the next sections, an analysis on the different deposit accounts as identified previously on section 6.4, is taking place. This analysis is conducted further, in search of factors or findings that are affecting the

deposit spreads, and the overall pricing structure for the Cypriot banks or the Euro Area MFIs. In order for the reader to visualise the spreads between the different account types, a series of graphs were constructed. Each graph shows the corresponding historic level of the deposit rate, for the Euro Area and Cyprus, and the spread difference between them in basis points.

6.4.2 Current Account and Overnight Deposit Spreads:

For this specific account type, the Cyprus banks appear to have a considerable advantage compared to their EU counterparts since they not only maintain favourable spreads throughout the period in focus, but they have also actually managed to increase the spread in the last year. For the household sector, the spread was at 86 basis points (see Graph 6.1). Although in the Graph below the spread difference is denominated in a negative sign, the spread favours the Cypriot banks since deposits are considered liabilities for a banking institution, as discussed on section 6.2.1.

Graph 6.1 Overnight Deposit Rates on Households

CY current Vs. EU overnight deposit rates on Households

source: European and Cyprus Central Bank, 2008
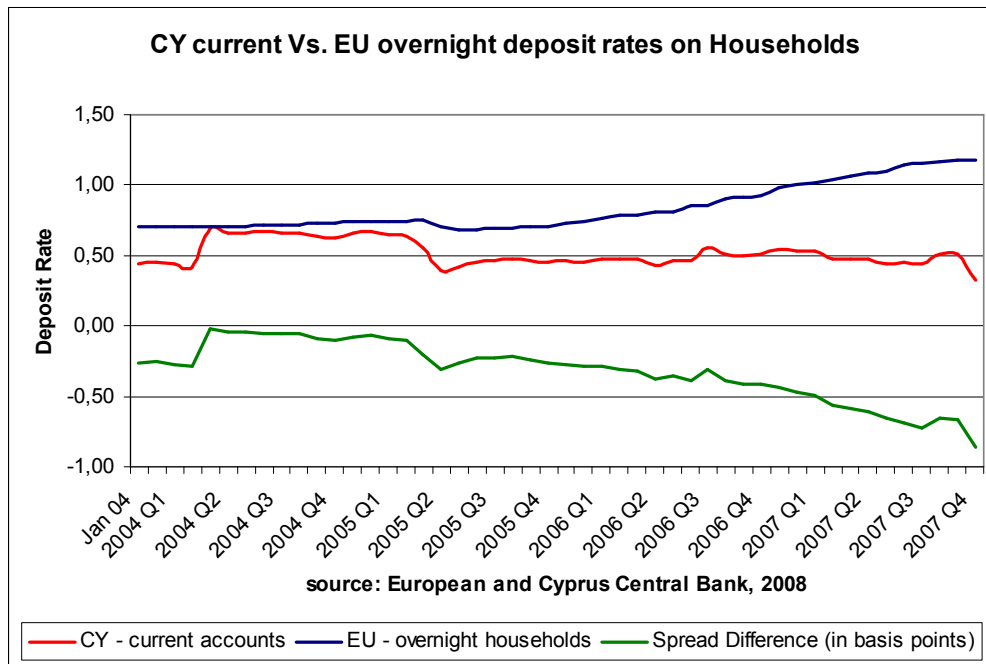
Graph 6.2 below shows for the same account type, the relationship for the NFC institutional sector. The picture of the NFC institutional sector is not different from the household sector.

Graph 6.2 Overnight Deposit Rates on Non Financial Corporations - NFC

CY current Vs. EU overnight deposit rates on non financial corporations

source: European and Cyprus Central Bank, 2008
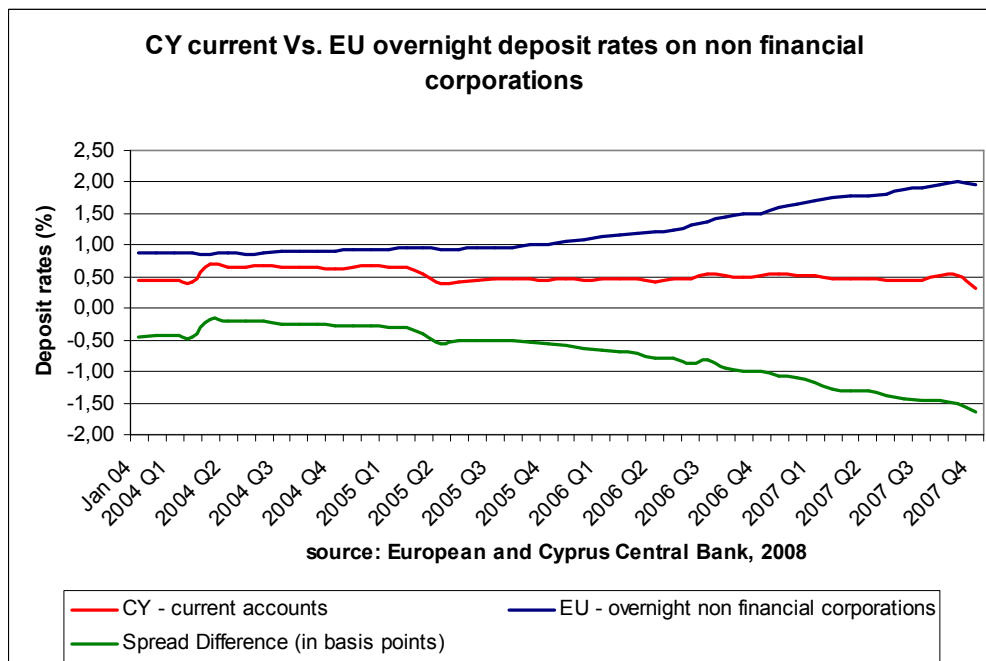
It is imminent that the Cypriot Banks have an almost straight line around the 50 bps. On the other hand, the Euro Areas MFIs are exhibiting an upward trend since the last quarter of 2005. Since then, the spread has been increasing and by the end of 2007 it widened to 163 bps.

Although the Cypriot Banks appear inflexible, we have to bear in mind that they were under the supervision of the CCB that was setting the base rates, the "domestic rate facility" and the "marginal lending facility", thus leaving limited room for adjustments.

A thorough examination of the 3 month and 1 year deposit rates will follow in order to get a clearer picture of this relationship to the pricing factor.

6.4.3 CY 3 month Notice and up to 3 months Deposit Rate Spreads:

Once more, for the three month deposit rates, it is noted from Graph 6.3 below, that the Cyprus banks maintained up to the 3rd quarter of 2006 at least 130 bps difference from the EU banking sector. It is shown however that since then, the gap is getting smaller and smaller, and by the end of 2007 (31/12/2007), the spread narrowed to 67 bps. In Chapter 5, in my analysis of the time deposits in the Cyprus banking sector, it is shown that the trend of the 3 month notice accounts is on the upward trend in contrast to the 1 year deposit accounts. This shift has spurred competition among the local banks, including the newcomer, Piraeus Bank that in effect has put an upward pressure on the local deposit rates.

Graph 6.3 3 month Deposit Rates on Households
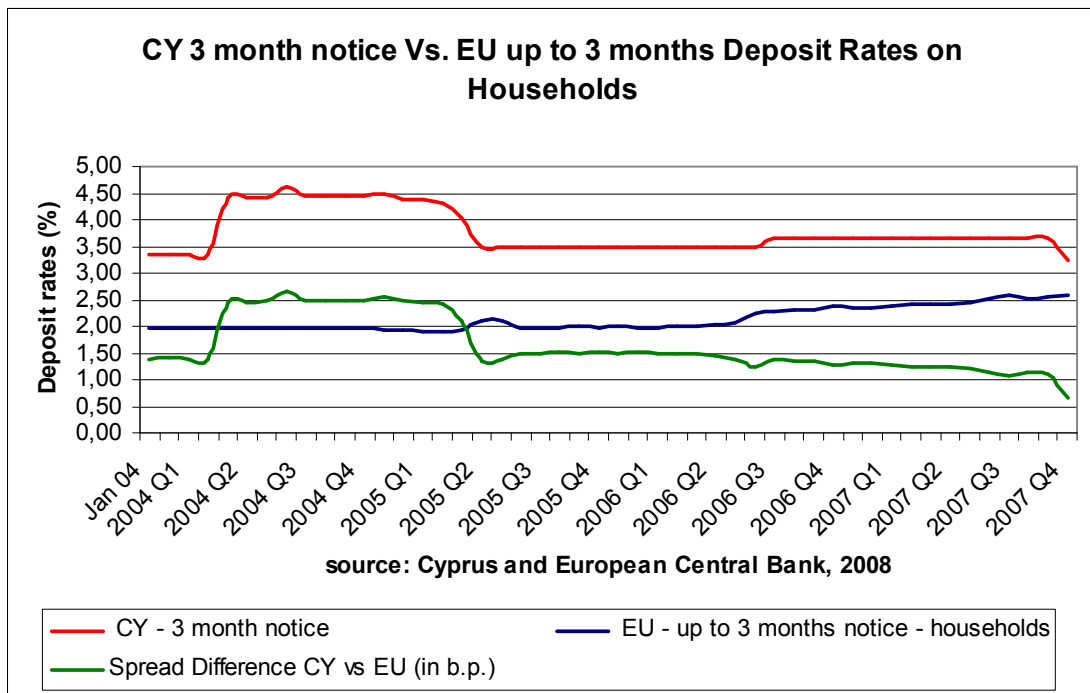
6.4.4 CY vs EU 1 year Deposits Rate:

The last deposit rate to be assessed is the one year deposit rate. Interestingly enough, the one year deposit rate shows a completely different picture relative to the current / overnight deposit and the three month deposit rates. As it is shown in Graph 6.4 below, up to a point, particularly in the beginning of 2007, both areas were aligned to the 1 year deposit rate offered. However from there on, the downward trend for the Cyprus banking sector continued along compared to the upward trend of the Euro Area MFIs. Although the spreads remained at around 40 bps during most of 2007, the year ended with 71 bps difference.

Graph 6.4 1 year Deposit Rates

CY Vs. EU 1 year deposits rate

source: European and Cyprus Central Bank, 2008

CY - 1 year fixed deposits
EU - up to 1 year with agreed maturity - from non financial corporations
Spread Difference CY vs EU (in basis points)
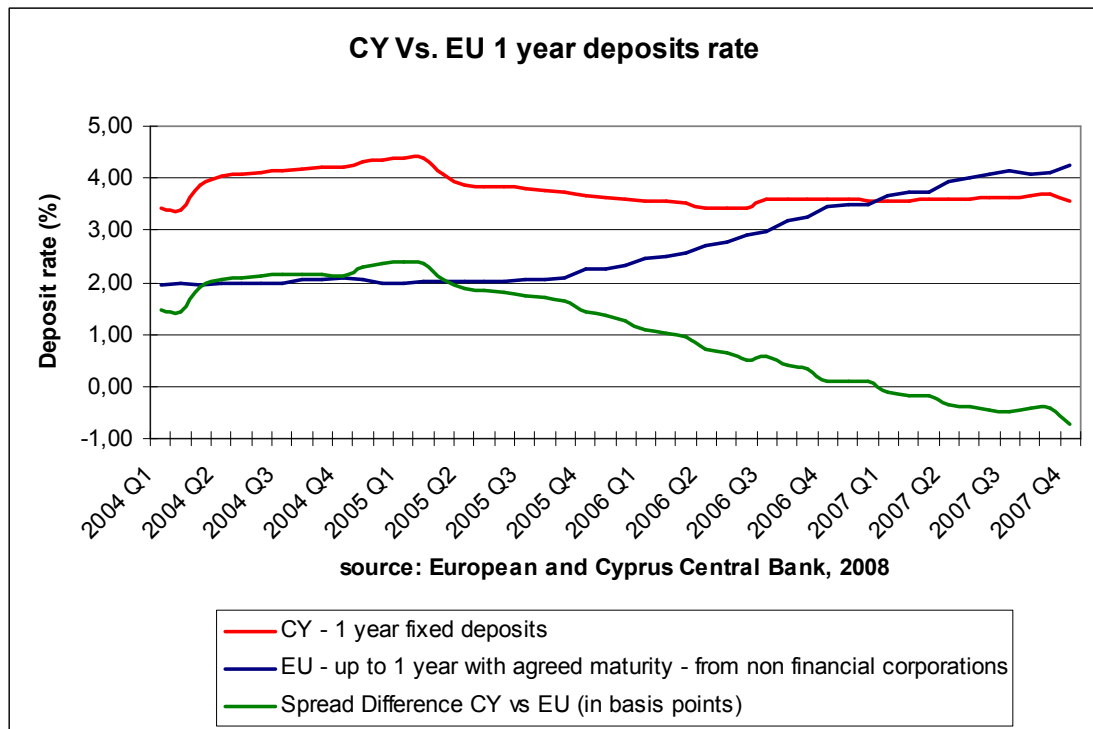
This section concludes the analysis on the three specific deposit rates of the Euro Area MFIs and the Cypriot banks. Before proceeding with the actual tabulation and assessment of the pricing factor in the two areas and banking sectors, an assessment and analysis on the lending rates is deemed necessary.

6.5 The Lending Rates:

Following the same approach as the deposit rates analysis for the two areas and the two sectors, and as described in the previous section, Table 6.1 reveals the Cyprus banks deposit rates, and Table 6.4 refers to the euribor rates as at 31/12/07, the following Table shows the CCB lending rates as reported at 31/12/07:

Table 6.8 Cyprus Banking Sector Interest Rates

Cyprus Commercial bank Interest Rates for 2007 (%)		as at 31/12/07	APRC
		as at 31/12/07	APRC
Lending rates (%)	Enterprises: overdraft within limits	6,34	6,83
	Enterprises: secured loans	6,26	6,74
	Personal: secured loans	7,26	7,62
	Housing: loans secured by assignment of life policy	5,65	5,92
	Credit cards	12,00	12,14
Marginal Lending Facility Interest Rate (%)			5,00

source: Central Bank of Cyprus, 2008

Since the data from the ECB refers to the Annual Percentage Rate of Charge (APRC), the same set of data is prepared also for the Cyprus Banking Sector, as it is indicated above in the last column of Table 6.8. The APRC for the Cypriot banks will be noted and accounted for in the case when findings and calculation appear different from the actual verified data.

Therefore, Table 6.4 which corresponds to the euribor rates and the Table above will be used for setting the benchmark of comparing the different type of loans between the two areas, if no other data set is available.

Moreover, the various rates have to be compared to the lending rates that exist in both areas. For the case of Cyprus, the *Marginal Lending Facility* is the rate set from the CCB. For the Euro Area MFIs is the 12 month euribor rate since 95,00% of all housing loans are maturing after the 5 years of initiation. Table 6.9 below shows the real lending rates compared to the institutions interbank facilities. These Euro Area lending rates are my reference point to the assessment and comparison of the lending rates, since they are the actual rates that the MFIs are charging. Table

6.9 shows the relative spreads between the different loan types in the Euro Area and in Cyprus.

Table 6.9 Loan Rates and Spreads in Cyprus and in the Euro Area

	Cyprus Banking Sector			Euro Area Banking Sector		
Type of Loan	Rate (APRC -%)	MLF	Spread (in basis points)	Rate (%)	Euribor 12 mth	Spread (in basis points)
Housing loans	5,92	5	92	5,15	4,77	38
Consumer Credit	7,62	5	262	8,32	4,77	355
Non-financial corporations	6,74	5	174	5,23	4,77	46

sources: European and Cyprus Central Banks, 2008

An initial analysis of the loan rates and spreads reveals that the CCB's marginal lending facility is set higher than the 12 month euribor rate. On the contrary, the Cypriot banks appear to enjoy higher spreads in the housing loans sector and the NFC sector. The actual lending rates charged however in the Euro Area appear lower, except in the case of consumer credit. As it will be discussed later on, the housing loans and consumer credit are part of the household sector.

In this project study, the household sector, the housing loans and the consumer credit are assessed and compared separately between the Euro Area MFIs and the Cypriot banks.

The lending rates, as shown above will be used as benchmarks in the case when no other data set is available, for the assessment of the different institutional sectors between the two areas.

So far in the project study, the deposit and lending rate spreads between the ECB and the CCB are compared and primarily assessed with each other. Although it is premature to arrive at any conclusions, the examination conducted in sections 6.4 and 6.5 identified the following differences as at 31/12/07:

- Although Cypriot banks appear to have higher weighted deposit rates, they enjoy higher spreads from their Euro Area counterparts. Specifically, the spread on the overnight and the 3 month deposit rates is favourable for the Cypriot banks. The Euro Area MFIs appear to be in an advantage for the case of the 1 year deposit rate.

- The lending rate spreads appear in favour for the Cypriot banks for the cases of housing and NFC loan rates. The Euro Area MFIs have the advantage on the consumer credit rates.

The preliminary and primary examination on the deposit and lending spreads revealed for the moment, that the Cypriot banks are enjoying higher spreads on their deposit and loan rates. As a reminder to the reader, it is noted that the "base" rates for the Cypriot banks were set by the CCB (see Table 6.2) and for the Euro Area MFIs they were set by the interbank market, the euribor rates (see Table 6.4). In the next sections, the investigation of the pricing factor will involve the institutional sectors that were identified in Chapter 5 and are mentioned in the introduction of this Chapter. In particular, the household (housing loans and consumer credit), NFC and government sectors between the Cypriot banks and the

Euro Area MFIs, is compared to the spread (the Net interest margin) and the return of each sector.

6.6 The Household Sector:

For both areas, the household sector represents loans for house purchase, consumer spending, individual enterprises loans and other lending to individuals. Before going examining the housing loans and consumer spending, the household sector is analysed in its entirety. Section 6.6 below will examine the household sector for both areas.

6.6.1 The EU Household and Individual Enterprises Sector:

The sector includes the loans for house purchase, the consumer credit and loans for other purposes. The European Central Bank has enough data to calculate the total proceeds from the loans and advancements and the total cost from the deposits. One point that should be noted is that the spreads are specific, regardless of the different amounts, types and level of deposits and loans that are not. The availability of data from the ECB allows me to precisely calculate the net return of the sector. More precisely, the data allows me to know the total amount of proceeds and the cost of the household sector. The net difference between the two amounts is the net income. Once you divide the net income to the total level of loans of the household sector, you have the net return as a percentage. The different data sets will be used for the validation and verification of the calculations. The described numbers and calculations in this paragraph are presented in Table 6.10 below:

Table 6.10 Euro Area MFIs Net Interest Income on Household and
Individual Enterprises Sector as at 31/12/2007

Household and Individual Enterprises Loans (€trillion)	4,81
Proceeds (€million)	257,157
Return (%)	5,36%
Household and Individual Enterprises Deposits (€trillion)	4,99
Cost (€million)	129,332
Cost %	2,59%
Net Interest Income (€million)	127,825
Net Interset Margin (%)	2,77%
Net Return on sector (%)	2,66%

Source: European Central Bank, 2008

Table 6.10 not only reveals the actual net profit that the Euro Area MFIs are posting, but also the return on loans given for the whole sector. The lending rate charged, the return, is at 5,36% and the deposit rate, the cost was at 2,59%. Specifically, the net proceeds (interest received from the loans – interest payable from the deposits) from the sector accounted for €127.825 million. The net interest margin on the sector is at 2,77% and the return on the sector is 2,66%, as at 31/12/07.

In sections 6.4 and 6.5, from my deposit and lending rates analysis, it was concluded that in cases where no deposit rate could be used, the weighted rate of deposits would be assigned, the 2,30%. In Table 6.9, the housing loan rate is identified at 5,15%.

However, Table 6.10 reveals that the most appropriate (and close to the actual reported data) lending rate is at 5,36% and the deposit rate at 2,51%. The specific Table was constructed by taking into account the different deposit types, the deposit levels at each type and the level of the interest rates as at 31/12/07. The actual lending rate of 5,36% has 21 bps

difference to the official lending rate of 5,15% as reported by the ECB. The same applies for the deposit rates, the calculated weighted deposit rate of 2,30% has 29 bps difference of the actual rate of 2,59%.

It is worth mentioning that the differences that appear can provide a back check, an additional verification on the data used and calculated. Moreover, this type of analysis can be performed in all the Euro Area institutional sectors, thus the same approach principal is used throughout the Chapter. Also, the same principle is applied for the case of the Cypriot banks for purposes of compatibility of the two areas.

6.6.2 The Cyprus Household Sector:

The Cyprus household loan sector includes the housing loans the consumer credit and other lending. Following the approach developed in the previous section, regarding the Euro Area household sector, a similar attempt is performed in this section as well. According to the CCB data released in January 2008, the following Table (all amounts are in £ Cyprus pounds) is indicative of the situation regarding the specific sector:

Table 6.11 The Cyprus Household Sector

| 2007 | Total Household Loans (£CyP) | Adjusted Lending Rate | Total Proceeds | Household Deposits | | Deposits Cost | NIM | Return |
				Amount	W.A. on deposits			
Jan	13.914.036	7,26%	1.010.153	19.566.628	2,95	577.216	4,31	3,11%
Feb	14.000.579	7,27%	1.017.645	19.674.351	2,95	580.393	4,32	3,12%
Mar	14.110.262	7,27%	1.025.348	19.853.667	2,95	585.683	4,32	3,12%
Apr	14.127.545	7,26%	1.025.805	20.036.892	2,95	591.088	4,31	3,08%
May	14.570.185	7,25%	1.056.304	20.533.255	2,95	605.731	4,30	3,09%
June	14.977.836	7,25%	1.086.457	20.832.752	2,95	614.566	4,30	3,15%
July	15.222.473	7,21%	1.098.041	21.169.359	2,95	624.496	4,26	3,11%
Aug	15.316.897	7,25%	1.110.938	21.222.664	2,95	626.069	4,30	3,17%
Sep	15.460.452	7,24%	1.119.925	21.344.474	2,95	629.662	4,29	3,17%
Oct	15.467.145	7,24%	1.120.097	21.332.923	2,95	629.321	4,29	3,17%
Nov	15.594.121	7,24%	1.129.123	21.439.005	2,95	632.451	4,29	3,18%
Dec	16.197.722	6,89%	1.115.971	22.211.364	2,95	655.235	3,94	2,84%

Source: Central Bank of Cyprus, 2008

Table 6.11 reveals the monthly level of the total household sector and the total proceeds regarding the relevant lending rate charged for these loans. Specifically, since the household sector is comprised of the housing loans, the consumer loans and other lending the total proceeds of these loans divided by the total amount of household sectors, reveal the lending rate for the household sector.

Although the loan rates used for the housing loans, the consumer credit and other lending were according to the CCB's data, the deposit rate for the household sector was unspecified. Therefore, the weighted average interest rate of deposits is used, as calculated in section 6.4.1. The main reason for this is that there was no time analysis on the deposits for the household sector (despite the fact that there was time analysis for the different loan types).

In order to compare evenly between the two sectors, a construction of a similar Table as for the Euro Area household sector (Table 6.10), is needed for the case of the Cyprus household sector:

Table 6.12 NIM and Return of the Cyprus Household Sector as at 31/12/2007

Household and Individual Enterprises Loans (€000s)	17.832.311
Proceeds (€000s)	1.115.971
Return (%)	6,26%
Household and Individual Enterprises Deposits (€000s)	22.211.364
Cost (€million)	655.235
Cost %	2,95%
Net Interest Income (€million)	147.222
Net Interset Margin (%)	3,31%
Net Return on sector (%)	2,58%

Source: Cyprus Central Bank (2008)

The Table above follows the same pattern and approach used in section 6.6.1 where the Euro Area household sector was examined.

It is important for the reader to note that the specific return as calculated on the household loans (6,26%) coincides with the enterprises secured loan rate, as displayed in Table 6.8.

A comparison of the two sectors reveals that the NIM, the spread, for the Cypriot banks is marginally lower than that of their Euro Area counterparts. There are 8 bps (2,66% - 2,58%) in spread difference in favour of the Euro Area MFIs. The actual return posted by the end of 2007 is also in favour of the Cypriot banks since it posts a difference of 18 basis points (2,84% - 2,66%). Although in both cases the deposit levels outnumber the loan levels, in the case of Cyprus the amount of deposit is higher than the

amount of loans by 24,55%. In the Euro Area are higher by a marginal 3,70%.

It is worth mentioning the return on the household loans. The rate charged from the Euro Area MFIs stood at 5,36% while for the Cypriot banks stood at 6,26%. The elevated return, which corresponds to the lending rate for the household sector, compared to the lending rates in Cyprus as shown in Table 6.11, reveal that a big chunk of the Cypriot banks loan portfolio is associated with other loans other than housing.

The key difference for the household sector is the disproportional amount of deposits that the Cypriot households have. The Cypriot banks seem to have an advantage because of the higher NIM, 3,31% vs 2,77% for the Euro Area. Overall though, the Euro Area MFIs outperform the Cypriot banks since the net return on the sector was marginally higher by 8 bps.

In the next sections, the household sector will be examined in terms of the housing loans and consumer credit, using the same approach. In cases there is specific data, it will be used accordingly and in the cases there is no data available, the rates discussed on sections 6.4 and 6.5 will be utilised.

6.6.3 Housing Loans or Loans for House Purchase:

According to the data obtained from the CCB the ECB and the European statistical service, the housing loan rate in Cyprus differ substantially from

the Euro Area median. Reviewing the housing loan rate, I came across the specific housing loan rates between the different Euro Area member states. The Graph below compares the housing loan rate between the Euro Area countries as at 31/12/07. Specifically, Cypriot banks charged 5,92% versus 5,4% median in the Euro Area. Although there are other member states that are above the Euro Area average, the Cyprus banking sector posted the second worse performance behind Slovenia.

Graph 6.5 Euro Area Housing Rates by Member State

Rates for house purchase (as at 31/12/07)

Source: European Central Bank, 2008
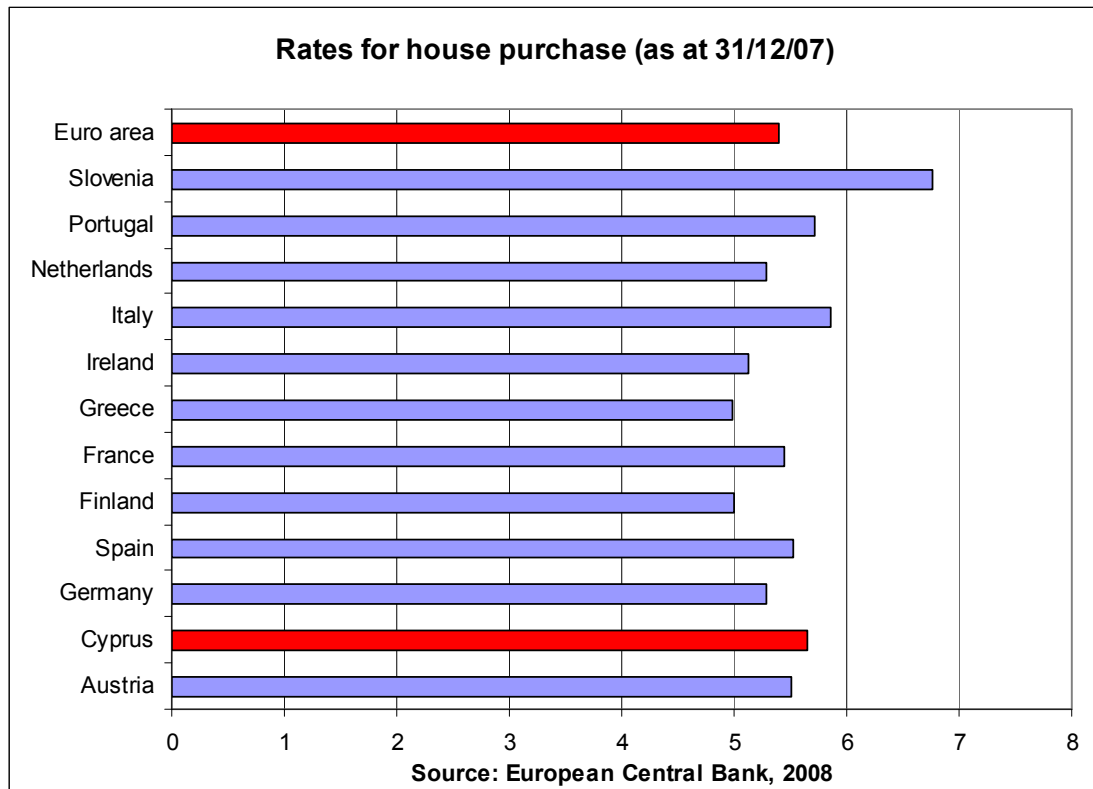
The interest rate data type is the Annual Percentage Rate of Charge (APRC) and it covers new business. Although, the Graph above and the accompanied comment regarding the rate charged in Euro Area member states are not directly related to the pricing factor issue, it is noteworthy for the reader to have an idea of the different interest rate levels that exist

across the Euro Area. Moreover, the Euro Area median of 5,40% differs substantially from the actual housing loan rate, 5,15%, as reported by the ECB as at 31/12/07. Furthermore, the research project takes into account the situation as at 31/12/107 and not during the precedent period.

Having in mind the different housing loan rates and following the analysis performed on the household sector in sections 6.6.1 and 6.6.2, the analysis continues for the housing loan sector. In order to compare evenly the spreads of the Cypriot banks and the Euro Area MFIs, Graph 6.6 below was constructed:

Graph 6.6 Housing Loan Rate Spreads

	Weighted Deposit Rate (bp)	Housing Loan Rate (bp)	Spread on Housing Loan Rate (bp)
Cyprus Banking Sector	295	592	297
Euro Area MFIs - Housing Loans	259	515	256

sources: Cyprus and European Central Banks, 2008
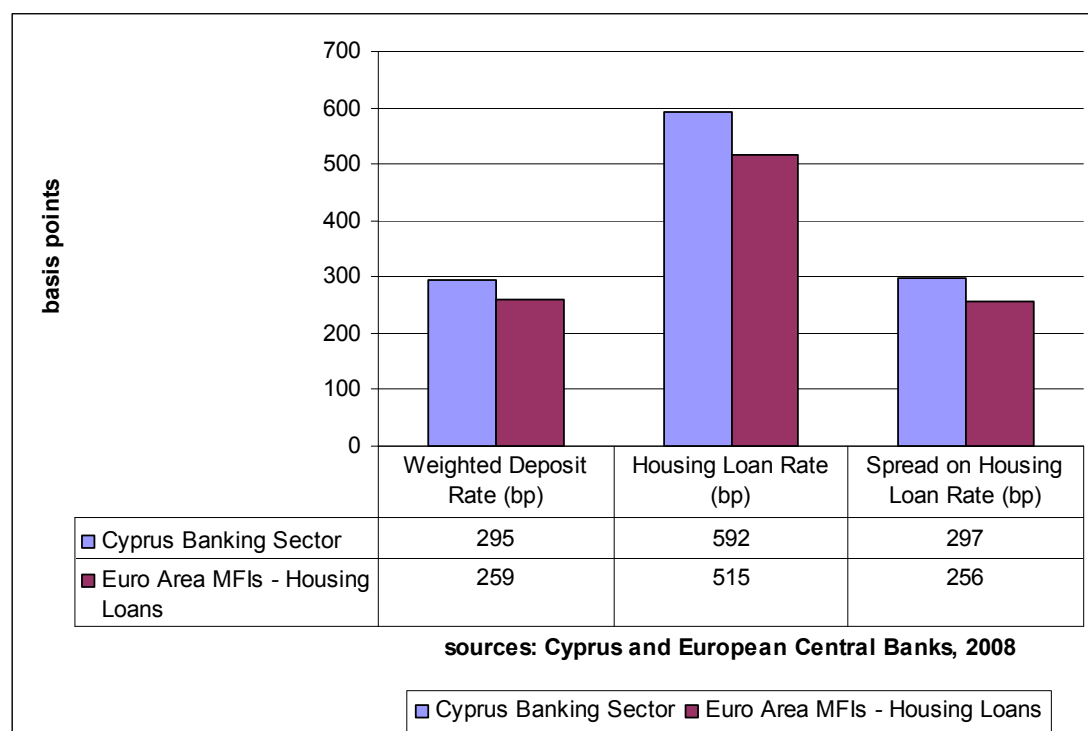
The housing loan rate 5,15%, as illustrated above for the Euro Area MFIs includes new business and is the APRC as derived from the ECB and as discussed on Table 6.9 in this Chapter. The same is valid for the housing

loan rate in Cyprus. The APRC on housing loans charged by the Cypriot banks is at 5,92% for 2007. The deposit rate used is as calculated on Table 6.10, at 2,59%, while for the Cyprus area the rate used is the weighted deposit rate, 2,95%, since it remains unspecified from the available data.

Cypriot banks seem to have a favourable spread of 41 bps, for the housing loans, contrary to the analysis performed on the total household sector that revealed 8 bps spread in favour of the Euro Area MFIs.

The Euro Area MFIs have a considerable lower housing loan rate compared to the Cypriot banks, they also have a lower deposit rate to the Cypriot banks.   It must be said that the Cypriot banks finance their loan operations (through their clients' deposits) at a higher cost than the Euro Area MFI's. The higher housing loan rate for the Cyprus Banks reveals that the additional charge is percolated to the Cypriot consumers.

Looking at the actual data below (attempting to reconcile the calculated spreads), we see that the total Euro Area housing loans amounted to €3,44 trillion compared to €4,81 trillion of the household's sector total loans (Tables 6.10 and 6.13). The housing loans represent more than 71,30% of the total household loans to the Euro Area and more than 28,41% to the total Loan portfolio of the Euro Area MFI's.

Table 6.13 Euro Area MFI's Housing Loans

	1999	2000	2001	2002	2003	2004	2005	2006	2007
EU GDP (€trillions)	6,25	6,438	6,871	7,097	7,178	7,469	7,809	8,217	8,722
EU GDP (% growth)	2,90%	3,90%	1,90%	0,90%	0,80%	2,10%	1,70%	2,80%	2,60%
EU Total Housing Loans (€trillions)	1,63	1,79	1,94	2,1	2,28	2,51	2,83	3,12	3,44
EU Total Housing Loans (% growth)	14,22%	10,07%	8,44%	8,19%	8,65%	10,00%	12,80%	10,30%	9,99%
Total Housing Loans to GDP (%)	26,08%	27,80%	28,23%	29,59%	31,76%	33,61%	36,24%	37,97%	39,44%

Source: European Central Bank (2008)

The housing loan sector has been gaining rapidly over the past 8 years and by the end of 2007, the total housing loans amounted to around 40,00% of the Euro Area's GDP. Interestingly enough though, is the fact that the housing loans growth is correlated to the GDP growth, and over the last ten years they have exhibited an average annual growth of around 10,00%.

An analysis of the maturity for the housing loans is presented on the next Table with the monthly charged interest rates (as at the end of each quarter). The data set used is per quarter and the time analysis is broken down to one year, between one and five years and over five years.

Table 6.14 Euro Area Housing Loans Maturity

Quarter	Up to 1 year	Over 1 and up to 5 years	Over 5 years	Housing Loans rate (%)
2007Q4	0,46%	2,15%	97,39%	5,40
2007Q3	0,47%	2,16%	97,36%	5,31
2007Q2	0,49%	2,18%	97,33%	5,15
2007Q1	0,49%	2,20%	97,31%	4,94
2006Q4	0,48%	2,24%	97,27%	4,80
2006Q3	0,52%	2,25%	97,23%	4,66
2006Q2	0,51%	2,27%	97,21%	4,42
2006Q1	0,50%	2,26%	97,24%	4,15
2005Q4	0,52%	2,32%	97,16%	3,98
2005Q3	0,54%	2,39%	97,07%	3,82
2005Q2	0,54%	2,42%	97,04%	3,87
2005Q1	0,54%	2,54%	96,92%	3,97
2004Q4	0,56%	2,54%	96,90%	4,07
2004Q3	0,59%	2,60%	96,81%	4,23
2004Q2	0,61%	2,63%	96,77%	4,16
2004Q1	0,59%	2,57%	96,84%	4,25
2003Q4	0,61%	2,68%	96,71%	4,41
2003Q3	0,70%	3,03%	96,27%	4,38
2003Q2	0,70%	3,03%	96,27%	4,40
2003Q1	0,70%	3,06%	96,24%	4,69
2002Q4	1,02%	2,98%	96,01%	n/a
2002Q3	1,14%	2,82%	96,03%	n/a
2002Q2	1,12%	2,88%	96,00%	n/a
2002Q1	1,12%	2,94%	95,94%	n/a
2001Q4	1,12%	3,01%	95,86%	n/a
2001Q3	1,13%	3,07%	95,80%	n/a
2001Q2	1,14%	3,20%	95,66%	n/a
2001Q1	1,14%	3,23%	95,63%	n/a
2000Q4	1,18%	3,33%	95,49%	n/a
2000Q3	1,19%	3,43%	95,38%	n/a
2000Q2	1,14%	3,40%	95,46%	n/a
2000Q1	1,11%	3,37%	95,52%	n/a
1999Q4	1,11%	3,52%	95,36%	n/a
1999Q3	1,13%	3,87%	95,00%	n/a
1999Q2	1,12%	3,95%	94,93%	n/a
1999Q1	0,94%	4,29%	94,77%	n/a
1998Q4	1,83%	2,84%	95,33%	n/a
1998Q3	1,92%	3,05%	95,03%	n/a
1998Q2	1,90%	3,15%	94,95%	n/a
1998Q1	1,91%	3,16%	94,93%	n/a
1997Q4	1,97%	3,23%	94,80%	n/a

Source: European Central Bank, 2008

The maturity of the housing loans is repaid after 5 years of commencement.

The above Table reveals that the 1 year and 1 to 5 years repayment trends are deteriorating. More customers prefer to repay their housing loans in longer periods than that of the 5 years. Even though there is not a full set of the rates charged, there are no conclusions or observations to be made regarding this matter. Unfortunately, the Cyprus Central Bank does not disclose this type of data and there are no comparisons to be made on the subject of maturity for this type of loan.

In the analysis of the housing loans, it is concluded that the Cypriot banks have a favourable spread of 41 bps (2,97% - 2,56%), compared to their Euro Area counterparts. As examined also in Chapter 5, it was observed that the Cypriot banks operate at higher interest rates. The housing loans appear as an important asset for the Euro Area MFIs, since they amount to almost 40,00% of the Euro Area GDP. Furthermore, there is a clear shift to longer repayment habits (longer maturity) for the Euro Area MFIs housing loans.

In the Annex section of my project study I present the inflation effect on housing loans. Although, it was not deemed necessary for the purposes of this research project to expand on this issue and this type of analysis is the subject of further research, I am deliberately presenting this issue in the Annex section. Housing loan maturities take longer than any other asset class and because of that, the inflation factor is always taken into account since inflationary pressures affect negatively the real lending

rates. The relevant issue in the Annex section compares the inflation rate to the housing loan rate for each Euro Area member state.

The discussion on the maturity of the Euro Area housing loans concludes the analysis on the housing loans in the Euro Area and Cyprus. The next important part of the household sector, the consumer credit is discussed next.

6.6.4 Real Consumer Credit/Personal Loans Interest Rates:

Following the analysis of the housing loans in the previous section, and being consistent to the data tabulation, calculation and comparison, Graph 6.7 (similar to Graph 6.6) was constructed. The primary goal was to calculate the spread of the consumer credit sector between the Cypriot banks and the Euro Area MFIs.

Graph 6.7 Consumer Credit Loans Spread

	Weighted Deposit Rate (bp)	Consumer Credit Rate (bp)	Spread on Consumer Credit Loan Rate (bp)
Cyprus Banking Sector	295	762	467
Euro Area MFIs - Consumer Credit	259	832	573

sources: Cyprus and European Central Bank, 2008

☐ Cyprus Banking Sector ☐ Euro Area MFIs - Consumer Credit
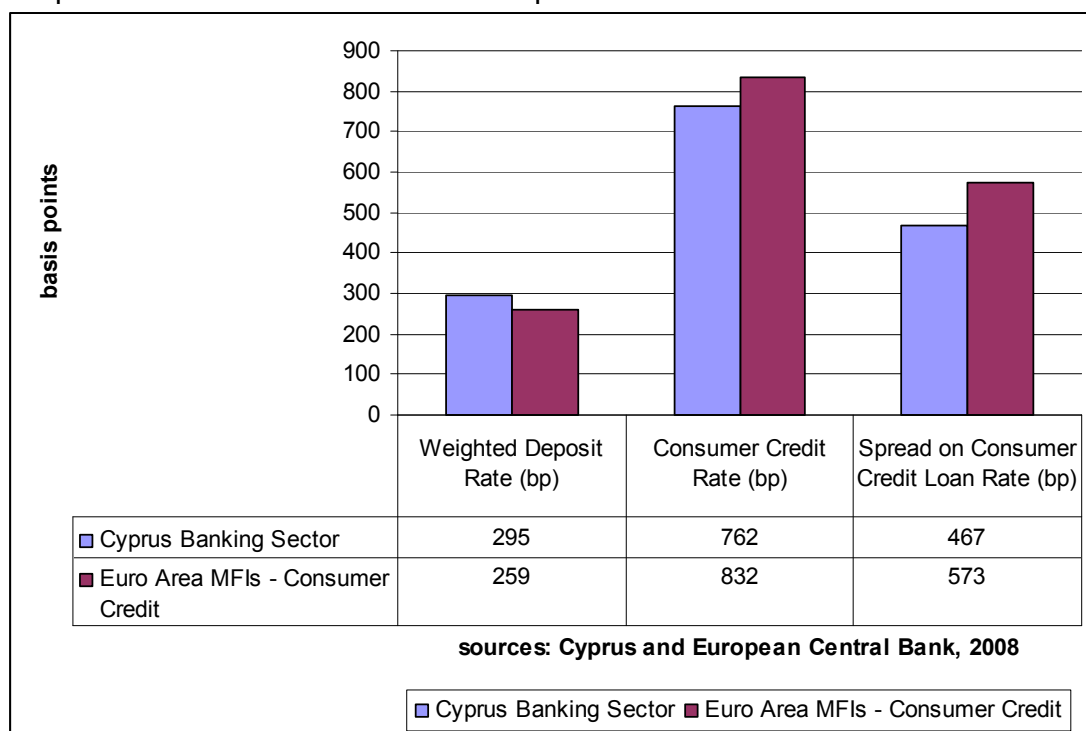
For Cyprus, I used the weighted deposit rate again. Also the deposit rate for the Euro Area MFI's on consumer credit is the same as the precedent analysis indicated and as calculated on Table 6.10, 2,59%. The consumer credit rates are the APRC as provided by the CCB and ECB for 2007.

The Chart above shows that the Euro Area MFIs are on a clear advantage compared to the Cypriot banks. The spread on the consumer credit loan rate for the Euro Area MFIs is considerably higher than the Cypriot banks, 106 bps in particular.

The huge difference not only in the spread for each area but also between the two sectors required additional analysis. In an effort to re-tabulate the spreads of the Cypriot banks and the Euro Area MFIs, I used as the deposit rate benchmark the 3 month deposit rate for both areas. Using the consumer credit lending rate, the 3 month deposit rate and the spread, the following Table was constructed just for further research analysis:

Table 6.15 Loan Spreads in Consumer Lending

Month	Euro Area MFI's			Cyprus Banking Sector			CY Banks Vs MFI's (Δ bps)
	EU MFI's (%)	Euribor 3 month	EU MFI's spread (%)	CY Banks (%)	3m notice accounts (%)	CY Bank's spread (%)	
Dec 06	7,71	3,68	4,03	7,48	3,65	3,83	20
Jan 07	8,25	3,75	4,50	7,63	3,65	3,98	52
Feb 07	8,28	3,82	4,46	7,66	3,65	4,01	45
Mar 07	8,14	3,89	4,25	7,67	3,65	4,02	23
Apr 07	8,15	3,98	4,17	7,67	3,66	4,01	16
May 07	8,27	4,07	4,20	7,65	3,66	3,99	21
Jun 07	8,26	4,15	4,11	7,65	3,66	3,99	12
Jul 07	8,35	4,22	4,13	7,65	3,66	3,99	14
Aug 07	8,48	4,54	3,94	7,65	3,66	3,99	-5
Sep 07	8,54	4,74	3,80	7,65	3,66	3,99	-19
Oct 07	8,38	4,69	3,69	7,63	3,66	3,97	-28
Nov 07	8,47	4,64	3,83	7,63	3,65	3,98	-15
Dec 07	8,28	4,85	3,43	7,26	3,24	4,02	-59

Source: OECD, European Central Bank, Cyprus Central Bank, 2008

Table 6.15 shows a different picture than Graph 6.10 since it uses the 3 month euribor rate for the Euro Area, the 3 month notice accounts rate for Cyprus and the monthly movement. Interestingly enough, the actual spread differences between the Euro Area MFIs and the Cypriot banks do not differ that much using the 3 month deposit rates as a benchmark. Furthermore, it can be noted here that the increase of the 3 month euribor rate is not followed by the Cypriot banks.

Nevertheless, taking into account the initial analysis performed on Table 6.10, the deposit rate, and in essence the cost for the Euro Area MFIs is not as high as the 3 month euribor; on the contrary, it is precisely set and calculated at 2,59%. Although the analysis above attempts to compare on an equal basis the consumer credit sector, using the corresponding "3 month deposit rate" for both areas, it is way off the true picture. The actual

deposit rate for the MFIs is 2,51% and essentially remains unspecified for the Cypriot banks.

However, using the weighted deposit rate for the Cypriot banks, the findings suggest that the Cypriot banks are seriously underperforming in this sector, compared to the MFIs.

In an effort to investigate a little bit further into this profitable sub sector, the actual level of the loans in relevance to whole household sector was examined. Table 6.16 below examines the level of the total consumer credit as a percentage to the total household loans in the Euro Area:

Table 6.16 Consumer Credit in Quarter Perspective

Quarter	Total Household Loans (€billions)	Total Consumer Credit (€billions)	TCC/TL (%)
2007Q4	4.808,16	617,62	12,85%
2007Q3	4.752,90	607,30	12,78%
2007Q2	4.692,70	602,32	12,84%
2007Q1	4.611,33	590,09	12,80%
2006Q4	4.537,65	586,56	12,93%
2006Q3	4.459,33	582,94	13,07%
2006Q2	4.384,53	576,16	13,14%
2006Q1	4.280,77	557,16	13,02%
2005Q4	4.191,62	554,12	13,22%
2005Q3	4.083,84	544,84	13,34%
2005Q2	3.995,87	537,40	13,45%
2005Q1	3.861,06	519,34	13,45%
2004Q4	3.809,04	515,49	13,53%
2004Q3	3.736,34	507,55	13,58%
2004Q2	3.663,77	502,24	13,71%
2004Q1	3.565,30	484,58	13,59%
2003Q4	3.521,21	484,53	13,76%
2003Q3	3.464,47	477,92	13,79%
2003Q2	3.411,60	501,92	14,71%
2003Q1	3.359,00	494,69	14,73%
2002Q4	3.327,67	518,93	15,59%
2002Q3	3.283,48	513,18	15,63%
2002Q2	3.242,33	505,66	15,60%
2002Q1	3.175,37	496,23	15,63%
2001Q4	3.146,78	497,08	15,80%
2001Q3	3.108,82	490,97	15,79%
2001Q2	3.074,76	486,92	15,84%
2001Q1	3.026,02	478,30	15,81%
2000Q4	2.978,08	475,22	15,96%
2000Q3	2.927,64	469,65	16,04%
2000Q2	2.864,21	456,86	15,95%
2000Q1	2.814,93	452,04	16,06%
1999Q4	2.761,32	439,77	15,93%
1999Q3	2.697,19	439,74	16,30%
1999Q2	2.637,58	432,76	16,41%
1999Q1	2.568,55	423,66	16,49%

Source: European Central Bank, 2008

Looking at the consumer credit total loans percentage to the total loans of the specific sector, was observed that percentage wise the trend appears negative. In the last quarter of 1999, almost 16,00% of the Total Loans of the household and individual enterprises was related to consumer credit,

while at the end of 2007 the figure decreased to 12,85%. The actual numbers however are growing strong and from €423,00 billion for the same period increased to €617,00 billion by the end of fourth quarter of 2007.

Also the consumers' repayment habits were put under perspective, as in the case of the Euro Area housing loans in the previous section. In the next Table, the balances of the consumer credit loans are broken down into the repayment categories of 1 year, 1 to 5 years and over 5 years. Furthermore, in order to identify if the repayment habits fluctuate with the lending rate, I tabulated the interest rate on consumer credit as reported by the European Central Bank at the end of each period.

Table 6.17 Consumer Credit Repayment Habits

Quarter	≤ 1 year	1 ≥ 5 years	> 5 years	C. Credit rate (%)
2007Q4	22,01%	33,27%	44,72%	8,28
2007Q3	22,08%	33,45%	44,47%	8,54
2007Q2	22,39%	33,98%	43,63%	8,26
2007Q1	22,37%	34,31%	43,33%	8,14
2006Q4	23,07%	34,57%	42,36%	7,71
2006Q3	22,34%	35,36%	42,29%	7,94
2006Q2	22,67%	35,68%	41,65%	7,67
2006Q1	22,64%	36,06%	41,29%	7,62
2005Q4	23,31%	36,22%	40,47%	7,41
2005Q3	23,09%	36,54%	40,38%	7,84
2005Q2	23,14%	36,73%	40,12%	7,74
2005Q1	23,15%	36,80%	40,05%	7,86
2004Q4	23,33%	36,78%	39,89%	7,60
2004Q3	22,69%	37,13%	40,17%	8,10
2004Q2	22,93%	37,27%	39,81%	7,89
2004Q1	22,69%	37,63%	39,69%	7,97
2003Q4	23,12%	37,36%	39,52%	7,55
2003Q3	23,25%	37,32%	39,43%	7,95
2003Q2	23,20%	35,77%	41,03%	7,95
2003Q1	22,90%	35,86%	41,24%	8,05
2002Q4	20,41%	34,37%	45,22%	n/a
2002Q3	20,24%	34,22%	45,54%	n/a
2002Q2	20,16%	34,33%	45,50%	n/a
2002Q1	20,00%	34,37%	45,63%	n/a
2001Q4	20,62%	34,29%	45,09%	n/a
2001Q3	20,50%	34,78%	44,72%	n/a
2001Q2	20,55%	35,14%	44,31%	n/a
2001Q1	20,64%	35,22%	44,14%	n/a
2000Q4	20,51%	34,71%	44,78%	n/a
2000Q3	20,53%	35,11%	44,36%	n/a
2000Q2	20,48%	35,32%	44,20%	n/a
2000Q1	19,70%	35,92%	44,39%	n/a
1999Q4	20,07%	35,43%	44,50%	n/a
1999Q3	19,55%	35,73%	44,72%	n/a
1999Q2	19,31%	35,83%	44,85%	n/a
1999Q1	20,35%	35,17%	44,48%	n/a

Source: European Central Bank, 2008

The 5 year loan maturity appears constant at around 44,00% to the total

loans throughout the investigated period. What is interesting however is

that there is an obvious shift from 20,41% to 22,90% to the 1 year maturity

from the 1 to 5 year maturity from 34,37% to 35,86%, during the first

quarter of 2003. Although there is no data available on the consumer credit rates for the whole period on scope, a slight shift to the 1 year repayment was observed. Overall though, the numbers reveal that the time maturity on consumer credit has very little fluctuation.

In the analysis of the consumer credit, it can be concluded that the Euro Area MFIs are out performing the Cypriot Banks by 106 bps. The significant spread was verified and validated through a different data set. Consumer loans, are also important to the Euro Area MFIs since they amount to almost 13,00% of the total Euro Area household sector. The time analysis reveals that there are little fluctuations on the repayment habits of the consumer loans.

The next section will examine the NFC institutional sector. As the reader will find out from the next section, the NFC sector is also crucial for the operation of the Euro Area MFIs and Cypriot banks, due to the high level of loans and the disproportionate number of associated deposits.

6.7 Non-Financial Corporations Sector:

The second most important sector of the Euro Area MFIs is the NFC sector. Assessed to the total loan portfolio, it contributes more than 36,00% for the Euro Area MFIs and more than 46,00% for the Cypriot banks.

Consistently and using the same approach as in the previous sections, in order to identify the spreads and examine further the calculated differences, Graph 6.8 was constructed:

Graph 6.8 Non Financial Corporations Spread

	Weighted Deposit Rate (bp)	NFC Loan Rate (bp)	Spread on NFC Loan Rate (bp)
Cyprus Banking Sector - NFC sector	295	674	379
Euro Area MFIs - NFC sector	275	523	248

sources: Cyprus and European Central Banks, 2008

Cyprus Banking Sector - NFC sector   Euro Area MFIs - NFC sector
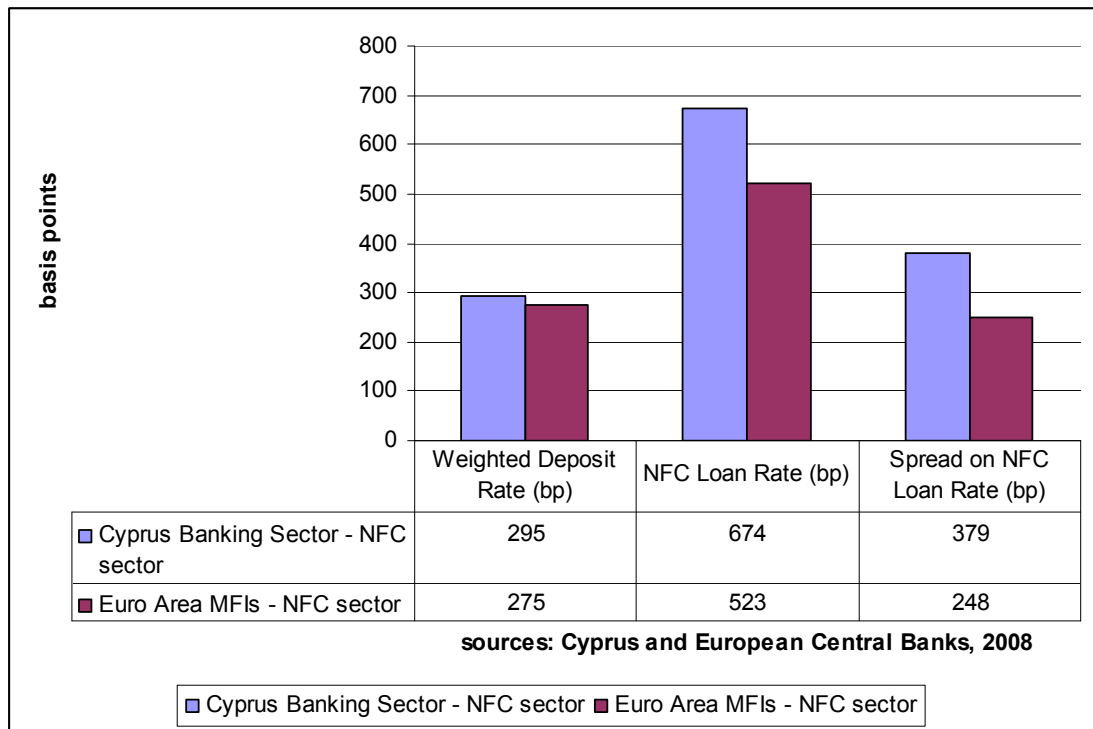
Following the analysis on the NFC sector spread, and similar to the technique used so far for the household, housing loans and consumer credit sectors, I used the weighted deposit average rate for both areas. Moreover, I used the APRC on the non-financial corporations' loan rates for 2007, which include the new business in the outstanding amounts for both areas as outlined in Table 6.9. The Table above shows that there is a big spread difference between the Cypriot banks and the Euro Area MFIs. This primary analysis though, is proven inconsistent if the reader contemplates the analysis of the household sector.

Detailed data can be obtained from the ECB, just as in the case of the household sector discussed in section 6.6.1. The data allows for actual representation and validation, of the spreads for the NFC sector. As in the case of the household sector, where specific percentages were calculated using the same technique, the same method can be utilised in the NFC sector as well.

Following the initial rough analysis as presented in Graph 6.8, in the beginning of the section, the Table below was extracted from the vast data obtained from the ECB. As in the case of the household sector, the total loans, the total deposits and the interest payable (cost) and received (return), along with the NIM and the return of the sector is presented:

Table 6.18 The Euro Area NFC Pricing as at 31/12/2007

Non financial Corporations Loans (€trillion)	4,39
Proceeds (€million)	244.488
Return (%)	5,57%
Non financial Corporation Deposits (€trillion)	1,47
Cost (€million)	41.730
Cost %	2,83%
Net Interest Income (€million)	202758
Net Interest Margin (%)	2,74%
Return on sector (%)	4,62%

Source: European Central Bank, 2008

The Table above provides the actual net income of the Euro Area MFIs for the NFC sector. The actual return on the sector however is at 4,62%, significantly higher than the household sector that stood at 2,66%. The real spread here (Net Interest Margin) is posted at 274 basis points, contrary to the initial analysis as presented in Graph 6.8 that reveals a spread of 248 basis points. Table 6.18 also reveals that the level of the

deposits is disproportional to the level of loans, the actual amount of deposits is considerably lower to the total amount of the associated loans of the sector. Also, the actual return on the loans appears higher than the 5,23% APRC loan rate on Graph 6.8 (as presented in Table 6.9), which means that the majority of the loans on Table 6.18 are not associated with new business, but a considerable amount of them involves outstanding amounts.

For the case of the Cypriot banks, the same approach as the household sector was used, as described in section 6.6.2. This is not only necessary to check the initial analysis performed on Graph 6.8, but also to derive at consistent and compatible conclusions and findings based on the analysis performed for the Euro Area NFC sector.

Again, following the same approach as section 6.6.2, the following Table was constructed, based on data from the CCB:

Table 6.19 The Cypriot Banks Non-Financial Corporations Sector

2007	Loans €('000s)	Enterprises secured loans rate (%)	Proceeds €('000s)	Deposits €('000s)	Deposit rate 3 month notice (%)	Proceeds (€000s)	Net Income (€000s)	Net Interest Margin - NIM	Return on sector (%)
Jan	13.845.989	6,81	942.912	5.216.467	3,65	190.401	752.511	3,16	5,43
Feb	13.934.629	6,81	948.948	5.009.243	3,65	182.837	766.111	3,16	5,50
Mar	14.331.080	6,80	974.513	5.247.305	3,65	191.527	782.987	3,15	5,46
Apr	14.591.418	6,79	990.757	5.207.421	3,66	190.592	800.166	3,13	5,48
May	15.196.608	6,78	1.030.330	5.451.099	3,66	199.510	830.820	3,12	5,47
June	16.188.814	6,78	1.097.602	5.865.365	3,66	214.672	882.929	3,12	5,45
July	16.394.955	6,78	1.111.578	5.899.600	3,66	215.925	895.653	3,12	5,46
Aug	16.742.112	6,77	1.133.441	6.062.270	3,66	221.879	911.562	3,11	5,44
Sep	17.417.850	6,77	1.179.188	5.960.741	3,66	218.163	961.025	3,11	5,52
Oct	17.960.330	6,77	1.215.914	6.053.269	3,66	221.550	994.365	3,11	5,54
Nov	18.336.111	6,77	1.241.355	6.391.011	3,65	233.272	1.008.083	3,12	5,50
Dec	19.329.075	6,26	1.210.000	6.535.314	3,24	211.744	998.256	3,02	5,16

Source: Cyprus Central Bank, 2008

Table 6.19 reveals the monthly level of the total NFC sector for the Cypriot banks and the total proceeds regarding the relevant lending rate charged for these loans. Moreover, the proceeds from deposits should be viewed as cost since it is interest payable to clients. The net income divided by the level of the NFC loans produces the return on the sector.

More specifically, the lending rate used was the enterprises secured loans rate, as identified in Table 6.9. Moreover, for the deposit rate of the NFC sector, the 3 month deposit rate was used in this case, since corporate business is more competitive amongst local banks. Furthermore and based on my time deposit analysis in Chapter 5, the existing trend exhibits that most deposits are reallocated from 1 year to 3 months. Using this method, the spread, NIM, as calculated from Table 6.19, differs substantially from the spread derived from the primary analysis of Graph

6.8.   The net difference as at 31/12/07 are 77 basis points (3,02% - 3,79%) at the disbursement of the Cypriot banks.

In order to compare evenly between the Euro Area MFIs and the Cypriot banks, a construction of a similar Table as for the Euro Area NFC sector (Table 6.18), was needed. Similarly as the household and NFC sectors, the total movement of the NFC sector for the Cypriot banks as at 31/12/07 is presented in Table 6.20 below:

Table 6.20 The Cypriot Banks NFC as at 31/12/2007

Non-Financial Coprorations Loans (€000s)	19.329.075
Proceeds (€000s)	1.210.000
Return (%)	6,26%
Non-Financial Coprorations Deposits (€000s)	6.535.314
Cost (€million)	211.744
Cost %	3,24%
Net Interest Income (€million)	998.256
Net Interset Margin (%)	3,02%
Net Return on sector (%)	5,16%

Source: Cyprus Central Bank, 2008

The spread, NIM, for the Cypriot banks stood at 3,02% while the net return on the sector was at 5,16%. Comparing the above results with the Euro Area MFIs' NFC sector as in Table 6.18, the spread difference, net interest margin, is in favour of the Cypriot banks by 28 bps (3,02% - 2,74%), and the overall return on the sector stood at 54 basis points (5,16% - 4,62%) in favour again for the Cypriot banks. As a reminder to the reader, it can be noted that the Cypriot banks outperformed their Euro Area counterparts on the NFC sector, even after elevating the deposit rate from the weighted average deposit rate of 2,95%, to the 3 month deposit rate of 3,24% (as at 31/12/07). Moreover (as in the case of the housing loans in section 6.6.2),

the associated lending rate used was as at 31/12/07 and not as the APRC for 2007. Although the difference on the actual spreads, the NIM, between the Cypriot banks and the Euro Area MFIs appears comparatively low, at 28 bps, the actual return on the sector outweighs favourably the Cypriot banks by 54 bps. Interestingly enough, for the specific sector, the deposit to loans ratio is the same, 33,00%, for the Euro Area MFIs and the Cypriot banks. Therefore, one cannot argue that the level of deposits compared to the loans is affecting positively or negatively either the one or the other banking sector.

Consistently, as in the previous analysis conducted so far and tabulated in Tables 6.14 and 6.17, the maturity of the NFC sector loans will be examined. Table 6.21 below divides the total NFC sector loans in three categories: up to 1 year, between 1 and 5 years and over 5 years. Furthermore, the Annual Agreed Rate was obtained from the ECB for each time category.

Table 6.21 Maturity of Non-Financial Corporation's Loans

Quarter	Up to 1 year	AAR - 1 year (%)	Over 1 and up to 5 years	AAR >1 year (%)	Over 5 years	AAR >5 years (%)
2007Q4	29,09%	5,91	19,57%	5,35	51,34%	5,14
2007Q3	29,50%	5,62	19,24%	5,09	51,26%	4,96
2007Q2	29,77%	5,44	18,90%	4,90	51,33%	4,84
2007Q1	29,63%	5,23	18,64%	4,66	51,73%	4,68
2006Q4	29,60%	4,93	18,39%	4,40	52,01%	4,53
2006Q3	29,65%	4,72	18,27%	4,19	52,08%	4,40
2006Q2	30,18%	4,53	17,88%	3,98	51,94%	4,31
2006Q1	30,09%	4,35	17,78%	3,84	52,13%	4,24
2005Q4	30,44%	4,25	17,42%	3,78	52,14%	4,26
2005Q3	30,43%	4,31	17,36%	3,85	52,22%	4,35
2005Q2	31,24%	4,38	17,20%	3,91	51,56%	4,40
2005Q1	30,85%	4,34	17,39%	3,97	51,76%	4,44
2004Q4	30,89%	4,45	17,36%	3,99	51,75%	4,52
2004Q3	30,74%	4,43	17,49%	4,00	51,77%	4,54
2004Q2	31,32%	4,45	17,28%	4,05	51,40%	4,61
2004Q1	31,27%	4,46	17,16%	4,15	51,56%	4,66
2003Q4	31,69%	4,51	17,27%	4,21	51,04%	4,73
2003Q3	32,27%	4,70	17,27%	4,47	50,45%	4,89
2003Q2	33,23%	4,97	16,90%	4,69	49,87%	5,06
2003Q1	33,22%	n/a	17,18%	n/a	49,60%	n/a
2002Q4	33,06%	n/a	17,36%	n/a	49,58%	n/a
2002Q3	33,67%	n/a	17,14%	n/a	49,19%	n/a
2002Q2	34,22%	n/a	17,10%	n/a	48,68%	n/a
2002Q1	34,74%	n/a	16,87%	n/a	48,38%	n/a
2001Q4	35,17%	n/a	16,88%	n/a	47,95%	n/a
2001Q3	35,89%	n/a	16,31%	n/a	47,80%	n/a
2001Q2	36,93%	n/a	16,01%	n/a	47,05%	n/a
2001Q1	37,06%	n/a	15,97%	n/a	46,96%	n/a
2000Q4	36,09%	n/a	16,00%	n/a	47,91%	n/a
2000Q3	36,20%	n/a	16,08%	n/a	47,73%	n/a
2000Q2	35,83%	n/a	15,89%	n/a	48,28%	n/a
2000Q1	35,99%	n/a	15,70%	n/a	48,30%	n/a
1999Q4	35,40%	n/a	15,37%	n/a	49,22%	n/a
1999Q3	35,37%	n/a	15,41%	n/a	49,22%	n/a
1999Q2	36,23%	n/a	14,95%	n/a	48,83%	n/a
1999Q1	36,16%	n/a	14,78%	n/a	49,06%	n/a
1998Q4	35,54%	n/a	13,83%	n/a	50,64%	n/a
1998Q3	34,85%	n/a	14,57%	n/a	50,59%	n/a
1998Q2	35,67%	n/a	14,56%	n/a	49,77%	n/a
1998Q1	35,63%	n/a	14,74%	n/a	49,63%	n/a

Source: European Central Bank, 2008

The analysis of the time maturity of the NFC sector reveals that clients are keener to interest rates movements and are willing to refinance their loans more frequently. The 1 year period loans to total sector loans has fluctuated from 37,06% (first quarter of 2001, interest rate at the time is not available) to 29,09% (fourth quarter of 2008). It is not random that at that time the interest rate charge stood at 5,14%, the highest in the period under scope. The 1 to 5 year period loans to the total sector loans were reported at their highest percentage, 19,57% at that period. However, the over 5 year period is fluctuating at a narrower band and over the period on hand it fluctuated from a minimum of 47,73% (third quarter of 2000) to 52,22% (third quarter of 2005).

This specific sector is more sensitive to the interest rate fluctuations and obviously there is little hesitation in rebalancing its loan maturities. This implies that the non financial corporations in the Euro Area are more responsive to interest rate fluctuations and are bargaining for lower rates. Although for the case of Cypriot banks, there is no time maturity for the NFC sector loans, the precedent point explains the lower margins that exist in the Euro Area MFIs. Nevertheless, as the reader will soon find out, the loan demand from the NFC sector in Cyprus did not leave any room for bargaining for lower rates.

Although the CCB or the Annual reports of the Cyprus Banks do not disclose this kind of detail, as their Euro Area counterparts, the Cyprus Central Bank published compatible statistical data with the European

Central Bank in January 2008. The relevant data dates back to the last quarter of 2005 and the following Graph is indicative of the situation as at 31/12/07 in Cyprus:

Graph 6.9 Cyprus Non Financial Corporations Loans Sector
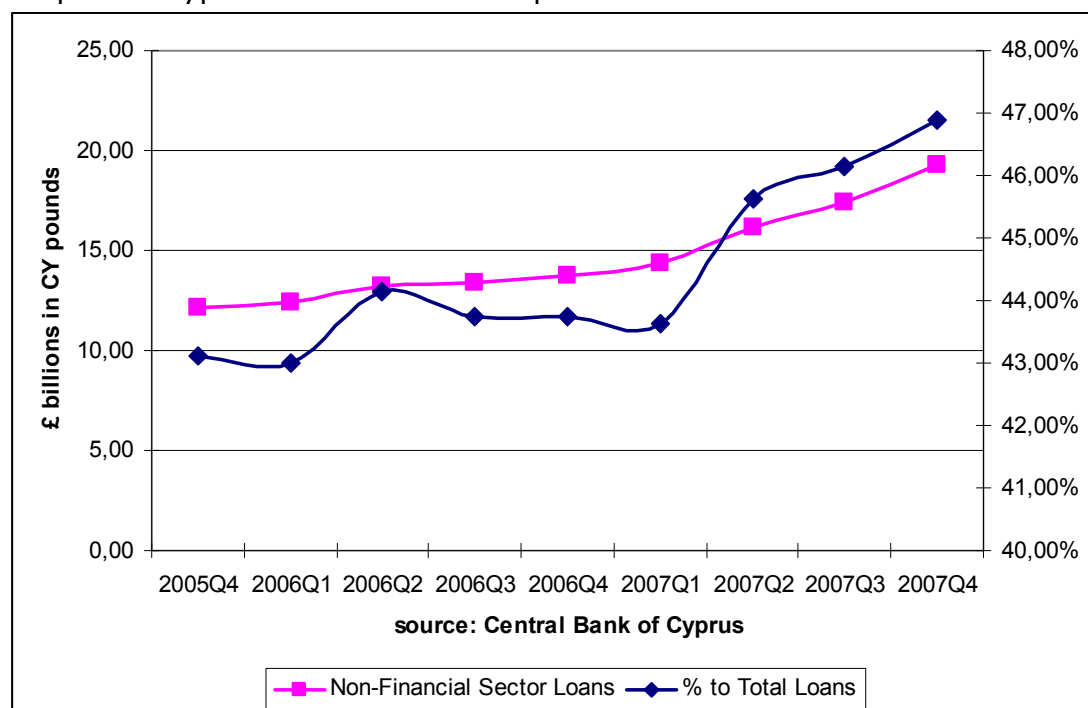
CBC (2008)

The Graph reveals that the non financial corporations loan sector in Cyprus accelerated in the beginning of 2007, one year prior to Cyprus accession to the Euro Area and is currently on a positive trend. In addition, Table 6.19 shows precisely the movement of the loans for the NFC sector, but also the associated lending rate, the enterprises secured loans rate. It is worth mentioning that the lending rate is on a downward trend for the Cypriot banks, in contrast to the Euro Area MFIs, as Table 6.21 reveals, that are on an increasing trend throughout 2007. Nevertheless, the lending rate for the Cypriot banks is considerably higher and in favour compared to their Euro Area counterparts.

In the analysis of the NFC sector it can be concluded that the Cypriot banks outperform the Euro Area MFIs, by 54 bps. It is interesting to observe that the spread (NIM) is also in favour of the Cypriot banks by 28 bps. Also, the primary comparison of the spreads, revealed that the interest rate charged for the NFC from the Euro Area MFIs does not involve new business, but a considerable amount involves outstanding amounts. The time analysis on the repayment habits revealed that in the Euro Area the NFC is more sensitive to interest rate fluctuations. It is more responsive to shift the repayment maturity according to the interest rate environment. In Cyprus, a completely different picture prevailed. Although the data on hand is limited from the CCB, it is imminent that there was high demand for loans from the NFC sector in Cyprus.

At this point, the overall examination of the household sector is concluded. Further analysis could be performed on the maturity of the loans and the deposits if data sets were available. Unfortunately, the data limitation from verified sources exhausts further research on the specific sector. So far, the household sector and the NFC sector have been examined. These two sectors comprise 76,17% of the total loans for the Euro Area MFIs and 90,30% for the Cypriot banks. Total deposits of these two sectors involve more than 64,78% of the Euro Area MFIs deposits and 59,88% for the Cypriot banks.

Following the same methodology pattern, the project goes further to asses the third major institutional sector, the government. As in the instances of the household sector and the NFC sector, at first, an analysis of the main lending and deposit rates will be identified. This will result in the spreads between the Euro Area MFIs and the Cypriot banks. From there on, the same outline will be performed, with specific data regarding the spreads and the time analysis of the associated loans.

6.8 The Governments Sector:

For the Euro Area, the Governments sector includes the General and State Governments, Local Authorities and Social Security Funds. In the case of Cyprus, the sector involves Public Institutions and Corporations. The notion of corporation in Cyprus is directly related to municipalities and local authorities or other public administration agencies.

Although most of the research on scope has been conducted on the household and the NFC sector, the Euro Area MFIs have a respected percentage of loans (close to 7,92% by the end of 2007) to the governments sector compared to their total loans.

For this particular sector, the ECB does not disclose the interest rate charged. Nevertheless, the European Statistical Service keeps track of all the monthly lending rates for households and NFC. It is important, for the reader to know, that business obtained from the government sector is perceived as almost risk free from banks and financial institutions. The

main reason for this is because the government sector runs a very low risk of insolvency. In addition, there is increased competition from banks and financial institution in obtaining government business. Thus, for the purposes of choosing the interest lending rate I used as a benchmark the lower rate. For the case of the Euro Area MFIs comparison, I used the interest lending rate of 5,00% (as the annual percentage rate of charge throughout 2007 for "Loans with maturity of over 5 years" for non-financial corporation). For the case of Cyprus and following the same reason, I will use the enterprises secured loans sector annual percentage rate of charge which was at 6,74% for the same period, throughout 2007. The same rate was also used for the primary analysis of the NFC sector. For the deposits held by governments I used the weighted deposit rates for both areas as calculated in the beginning of the Chapter. In this case though, the weighted deposit rate is the same as the NFC sectors as calculated in Table 6.7 and as used in the previous section. The primary analysis of the spreads leads us to the following Graph:

Graph 6.10 Government Sector Spreads

	Weighted Deposit Rate (bp)	Governments Loan Rate (bp)	Spread on Government Loan Rate (bp)
Cyprus Banking Sector	295	674	379
Euro Area MFIs	275	500	225

Sources: European and Cyprus Central Banks

Cyprus Banking Sector   Euro Area MFIs
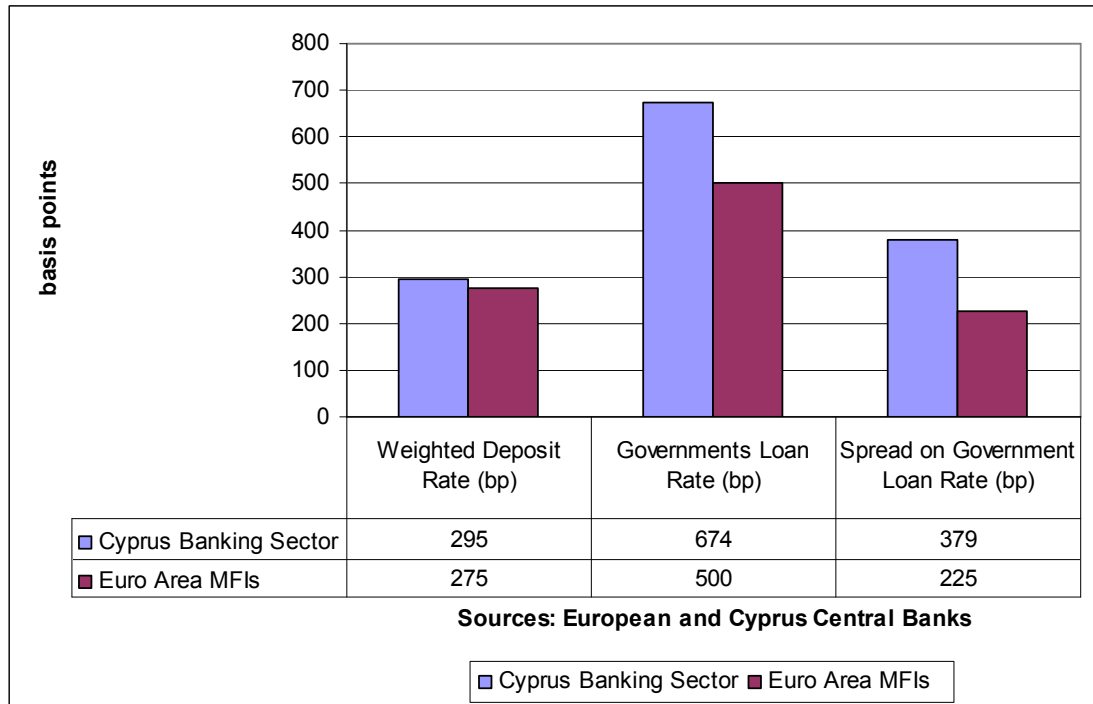
Clearly, in this sector the Cyprus Banks initially seem to have an advantage.

The spread on the government sector is 379 basis points for the Cypriot banks and 225 basis points for the Euro Area MFIs. Following the same pattern as the previous two sectors and calculating the data by applying the same manner, a similar Table as in the cases of the household and NFC sectors is extracted:

Table 6.22 EU MFIs Governments Sector Pricing as at 31/12/2007

Governments Loans (€trillion)	0,956
% to Total EU MFI's loans	9,59%
Proceeds (€million)	47.800
Return (%)	5,00%
Governments Deposits (€trillion)	0,373
% to Total EU MFI's deposits	3,09%
Cost (€million)	10.998
Cost %	2,95%
Net Interest Income (€million)	36.802
Net Interest Margin (%)	2,05%
Net Interest Income (%)	3,85%

Source: European Central Bank, 2008

The Net Interest margin is calculated at 2,05% and it initially appears as the lower spread amongst the so far assessed sectors. As a reminder to the reader, the Government sector is composed of General-Central-State Governments, Local Authorities and Social Security Funds. This type of clientele is considered as institutional by the financial sector, therefore the financial / banking institutions are more competitive with each other. Although the net interest margin is clearly lower than the household and the NFC sector, the return on the sector stood at 3,85% as at 31/12/07. This excellent return is also the result of the low level of deposits that the governments are holding with the Euro Area MFIs. The Euro Area Governments sector loans at the end of 2007, accounted for 9,59% of the total loans, while the deposits accounted for 3,09% of the total deposits. This fact resulted in hefty returns for the Euro Area MFIs from the sector.

A similar Table can be attempted for the case of Cyprus also, just as in the cases of the household and NFC institutional sectors, since the CCB has up to a level compatible data to the European Central Bank. The data on hand refer to the total deposits and loans of the Government sector.

Although there is no data regarding the deposit or lending rates, I used the highest deposit rate (1 year fixed) and the lower lending rate (enterprises with secured loans) for compatibility purposes with the Euro Area sector, where the Euro Area MFIs charged the lowest lending rates and handed higher deposit rates. Furthermore, the reasoning for choosing the highest deposit rate is the same as in the beginning of this section. Increased competition and very low risk of insolvency, are the main reasons for combining the lowest lending rate and the highest deposit rate for the government sector.

Table 6.23 The Return on the Government Sector – Cyprus Banks

2007	Loans €('000s)	Enterprises secured loans rate (%)	Proceeds €('000s)	Deposits €('000s)	3 month notice	Cost (€)	Net Income (€)	Net Interest Margin - NIM	Return on sector (%)
Jan	1.732.062	6,81	117.953	242.005	3,65	883.318	117.070.071	3,16	6,76%
Feb	1.796.614	6,81	122.349	240.466	3,65	877.701	121.471.695	3,16	6,76%
Mar	2.047.212	6,80	139.210	307.803	3,65	1.123.481	138.086.934	3,15	6,75%
Apr	1.910.268	6,79	129.707	320.954	3,66	1.174.692	128.532.490	3,13	6,73%
May	1.860.322	6,78	126.130	270.713	3,66	990.810	125.139.046	3,12	6,73%
June	1.843.951	6,78	125.020	257.253	3,66	941.546	124.078.309	3,12	6,73%
July	1.728.049	6,78	117.162	257.062	3,66	940.847	116.220.849	3,12	6,73%
Aug	1.737.109	6,77	117.602	254.808	3,66	932.597	116.669.673	3,11	6,72%
Sep	1.775.341	6,77	120.191	281.201	3,66	1.029.196	119.161.365	3,11	6,71%
Oct	1.811.618	6,77	122.647	312.740	3,66	1.144.628	121.501.883	3,11	6,71%
Nov	1.806.686	6,77	122.313	340.188	3,65	1.241.686	121.070.960	3,12	6,70%
Dec	1.816.840	6,26	113.734	268.892	3,24	871.210	112.862.951	3,02	6,21%

Source: Cyprus Central Bank, 2008

Table 6.23 shows the monthly level of the loans and deposits of the government sector. The proceeds on the loans refer to the interest received, while the proceeds from the deposits refer to the interest payable. The net income is the difference of the interest received and paid, the NIM is the spread difference of the loan rate and the deposit rate.

The return on the sector is the net income over the loans of the governments.

The indicative Table above reveals that the Cypriot government sector is similar to the Euro Area in terms of loans to deposits. Both sectors have low deposits compared to the total loans received.

The next step is to tabulate these results in a Table of similar manner as in the Euro Area MFIs government sector, as in Table 6.22, in order to compare and assess evenly the government sector between the Cypriot banks and the Euro Area MFIs.

Table 6.24 Cypriot Banks Government Sector as at 31/12/2007

Governments Loans €('000s)	1.816.840
Proceeds €('000s)	113.734
Return (%)	6,26%
Governments Deposits €('000s)	268.892
Cost €('000s)	8.712
Cost %	3,24%
Net Interest Income €('000s)	112.863
Net Interset Margin (%)	3,02%
Net Return on sector (%)	6,21%

Source: Cyprus Central Bank, 2008

As mentioned previously for the Euro Area and Cypriot government sector the level of loans is proportionally higher than the level of deposits, the Table above confirms for one more time this finding. The Cyprus Government loans account for 4,41% of the total loans and its deposits for 0,51% of the total deposits held by the Cypriot banks. The NIM on the sector is 3,02% and the return on the sector, as posted as at 31/12/07, stood at 6,21%

Comparing Tables 6.22 and 6.24, it can be concluded that the spread on the sector for the Cypriot banks is favourable by 97 basis points (3,02%-2,05%) compared to their Euro Area counterparts. Although the Euro Area MFIs post a hefty 3,85% return on the sector, the same applies for the Cypriot banks with their return at 6,21%. Nevertheless, the Euro Area MFIs are more concentrated on the sector than their Cypriot counterparts.

Data limitations restrict further analysis for the government sector for both areas. It is noteworthy that the specific sector for the Euro Area MFIs is more crucial and important than the Cypriot banks. In my analysis in Chapter 4, regarding the Cypriot and the Euro Area economies, it was identified that Cyprus is not only on its way to meet the Euro Area economic indicators averages, but it is also in a restructuring process. Although this restructuring process of operating in the new Euro Area economic environment is moving fast in the private sector, the government sector appears more slow to adopt. Therefore, the government sector for the Cypriot banks appears underdeveloped, due to the inability or even ignorance of local municipalities to draw funds from the banking sector.

The analysis performed so far however, covers 94,70% and 84,09% of the total loans and 60,39% and 68,52% of the total deposits, for the Cypriot banks and the Euro Area MFIs respectively.

6.9 Synopses on Chapter 6:

Chapter 6 essentially marks the end of the research on the project study. The assessment of the most important institutional sectors in the Euro Area and in Cyprus by the Euro Area MFIs and Cypriot Banks was conducted. Specifically the level of loans and deposits was identified along with the interest rates charged for each institutional sector in respect to its area of operation. One of the obvious problems that I had to surpass in this Chapter was not only the compatibility of data between the two areas, but also the limitations of the available data.

In the beginning of this Chapter, a calculation of the weighted deposit rate for the Euro Area and for Cyprus was performed. The calculation was essential in cases that no other deposit rate could be used, and it was also used in cases where a deposit benchmark was needed between the two areas. Moreover for the Euro Area, a distinction of the weighted deposit rate between the household and the NFC sectors was identified. Although Cyprus joined the Euro Area in the beginning of 2008, the data on hand is not absolutely compatible with the Euro Area. Nevertheless for the Euro Area, the maturities of the loans and deposits were used to set specific levels of interest rates as reported by the ECB. For each sector a data back check was conducted in order to verify the data and the conducted comparisons, after the primary valuation of the spreads.

On the other hand, for the case of Cyprus, the data on hand did not provide loan or deposit maturities. Thus, the time analysis conducted on the deposits in Chapter 5, oriented the research to specific levels for each institutional sector. The same approach was conducted for the loans also. Although the data could not be thoroughly back checked for absolute verification, the calculations and comparisons conducted, provided the research with specific conclusions and recommendations as the reader will realise in the next Chapter.

In addition to the above, this Chapter concludes that the Cypriot banks have a favourable spread to the Euro Area MFIs in the following sectors: Household, housing loans, NFC and government. This fact however, does not mean that the Euro Area MFIs have a better return on these sectors from the Cypriot banks. The only sector that the Euro Area MFIs seem to outperform the Cypriot banks is the household sector. In this Chapter, the maturity of the loans for the different sectors is also identified. The NFC sector is very sensitive to interest rate fluctuations, while the housing loans sector is shifting to longer maturities. Furthermore, the disproportionate level of deposits of the household sector for the Cypriot banks, clearly affects the return on the sector. The Chapter also identified that the Cypriot banks operate at higher rates than their Euro Area counterparts. This point was identified also in Chapter 5, where it is verified in this Chapter. From the data analysis, the calculations of the spreads and the return of each sector, it can be concluded that the elevated deposit rate in Cyprus is percolated to consumers through higher lending rate loans.

At this point the research of the project study concluded the aims and objectives of my research proposal. In particular, the research covered the following:

- An in depth analysis of the status of the Cypriot and Euro Area economies as at 31/12/07.

- A conclusion regarding the impact of the Euro Area economy to Cyprus.

- A comparison between the two economies.

- An evaluation of the Cypriot and Euro Area banking sectors, concentrating in their pricing perspective.

- A comparison between the two banking sectors, and their spreads.

The next and final Chapter, Chapter 7, is solely occupied with the conclusions and the findings of the whole research project. Furthermore, it will post a series of recommendations based on the concluded research, as an attempt to reformulate the strategy (the pricing policy/factor) of a banking institution in the Euro Area.

CHAPTER 7

CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

7.1 Introduction:

In this Chapter the conclusions and findings of the research project as outlined in Chapters 4, 5 and 6 are presented. Although the preceding Chapters did not actually involve the pricing factor up until Chapter 6, the project study revealed that further research is needed in the areas of the banking integration, operation and regulation within the common currency market, the Euro Area.

This Chapter consists of two parts. The first part will concentrate on the conclusions and findings, and the second part on the recommendations that derive from the whole research of the project study. The recommendations derived from the project study will take me to the point where a recommendation of reformulating the pricing strategy within the Euro Area will be presented. The recommendation regarding the pricing factor/policy within the Euro Area will complete the aims and objectives as set by my research proposal.

As a reminder to the reader, all the data associated with the project study and all the findings, conclusions and recommendations are based on the economic situation in Cyprus and in the Euro Area as at 31/12/2007.

7.2 Conclusions and Findings:

This section presents the conclusions and findings of the whole study.

- Cypriot banks did not include, through special legal clauses, the accession to the Euro Area in existing loan contracts, by referring to the euribor rate, therefore losing close to €136,00 million in net interest income by the end of 2007.

- The Euro Area and Cyprus in particular, are faced with an ageing population problem. There is urgent need for reform since the demographic change will have considerable consequences on economic growth. Furthermore, the long-term sustainability of public finances is at jeopardy, since ageing population also means rising expenditures on public pensions, health care and care for the elderly. Growing imbalances may limit future growth potential and income generation.

- As Tables 5.1 and 5.2 in Chapter 5 reveal, the number of credit institutions is declining while their total assets are increasing, therefore signalling the emergence of larger institutions. The Euro Area environment favours large banking institutions, and the consolidation trend of the banking sector has been evident since 2000. Furthermore, it is noted from the literature review, (Perez et al, 2005), that the banking integration in the Euro Area is proceeding faster than in the European Union or developed countries as a whole.

- In Chapter 5 it is identified that Cypriot banks appear overstaffed compared to the Euro Area average. The main reasons for this, are

the on-going consolidation of the Co-ops, that is occurring but at a very slow pace, and the particularity of the Cypriot banking branches, in terms of the product mix offered. Mamouneas et al (2007), has studied the subject of efficiency of the Cypriot banks. It is concluded in his study that Cypriot banks are lagging behind compared to the Greek and British banks, in technological advances, that in essence are affecting their efficiency, which adds limitations to the factor of competition. As outlined in the literature review, Cypriot banks are not compared favourably in terms of efficiency with Greek and/or British banks. Mamouneas et (2007) states that Cypriot banks are gaining in terms of economies of scale, rather than in technological processes or in the efficient use of labour and in the handling of deposits. However, the term "efficiency" is highly debateable in professional and academic circles and that is repeatedly stated from Bos et al (2006), Bos and Kolari (2005), Lozano-Vivas et al (2001). What is concluded though is that the efficiency results are different between studies due to different estimate techniques, sample size, input and output specifications and period.

- For both economies, the banking sector displays a positive correlation between the GDP and the loan growth. The uneven numbers in the loan growth have to do with more specific factors like the clientele base and the special market characteristics. Affinito et al (2006) argue that the interest rates across the Euro Area are not distributed uniformly. These national differences can

be partially explained because of the special characteristics of domestic depositors and borrowers. Factors such as risk exposure, disposable income, alternative financing sources, average firm size, banking market concentration, asset and liability structure differ from one member state to another. Furthermore, these factors are subject to further research, as the banking integration of the Euro Area in terms of political, economical and social convergence is maturing in the depth of time.

- The Cypriot banking sector, as at 31/12/07, is growing faster compared to the Euro Area MFI sector. In particular, the deposits for the Cypriot banks are growing faster than the Euro Area MFIs. Total deposits per GDP stood at 3,25 times in Cyprus vs 1,18 times in the Euro Area. Moreover, the loans for Cypriot banks are growing faster than the Euro Area MFIs. Total loans per GDP stood at 2,27 times in Cyprus vs 1,49 times in the Euro Area.

- In Chapter 6, section 6.3, reveals that the Euro Area MFIs enjoy higher deposit spreads than the Cypriot banks. The Cypriot banks operations were limited by the CCB that was setting the base rates at specific levels. Although the base rates of the CCB and ECB were fully aligned by the end of 2007, the real deposit rates between the Euro Area MFIs and Cypriot banks were at different levels. The calculated weighted deposit rate for the Euro Area MFIs amounted to 2,30% and for Cypriot banks to 2,95%. Although for the Euro Area, only the household and the non-financial corporations as institutional sectors were used, their total

contribution to the Euro Area deposits stood at 64,70% as at 31/12/07. Moreover, the study was primarily concentrated on the household and the non-financial corporations sectors since they comprise the bulk of the banking business in the Euro Area and in Cyprus as well. The weighted average rate on deposits reveals that the deposit rates in Cyprus are higher than their Euro Area counterparts, as mentioned above.

- Cypriot banks are operating at higher lending and deposit rates than their Euro Area counterparts. The Cypriot banks, however, display higher spreads than those of the Euro Area MFIs. The only sub-sector that the Euro Area MFIs spread appears higher is the consumer lending sector.

- The time analysis on deposits performed in Chapter 5 revealed that the Euro Area MFIs deposits are more concentrated in overnight accounts, while Cypriot banks are concentrated more on 3-month notice accounts. Furthermore, the deposits time analysis revealed that there are two opposite time deposit trends for both areas. In the Euro Area the 2-year deposits with agreed maturity are gaining to the expense of overnight and 3-month redeemable deposits. On the contrary, the trend in the Cyprus Banking Industry is gaining on the 3-month deposit accounts to the expense of the 6 to 12 month and 7-days notice accounts.

The time analysis on deposits reveal that the trend in Cyprus as at 31/12/07, is shifting clearly to deposit accounts of 3-month duration

from 1-year duration. On the contrary, the Euro Area MFIs are shifting their maturities longer, to 2-years with agreed maturity.

- The maturity of the housing loans in the Euro Area is steadily shifting at longer repayment periods.

- The spread on consumer credit for the Euro Area MFIs is considerably higher than their Cypriot counterparts (taking into account the weighted deposit rate). The consumer credit as a percentage to the Euro Area GDP is steadily below 13,00% for the Euro Area MFIs total household loans. The actual number of the total consumer credit however, stood at €617,90 billions, 5,10% of the total Euro Area MFI loans.

- The NFC sector in the Euro Area does not primarily involve new business in terms of new loans. This factor leaves the Euro Area MFIs with a hefty return of 4,62% on the sector. Although from a primary analysis it appears at a 2,48% spread, the actual calculated spread is at 2,74%. The reason for this is that the level of deposits is low compared to the loans, plus the fact that the rates on new business did not seem to affect the return on the sector for the time period under study.

Without specific data on the deposits maturity on hand, approaching the calculation with a similar rationale as in the Euro Area for the case of Cypriot banks, the 3-month deposit rate was used. In Cyprus the non-financial corporations sector seems to post an average yearly spread of 3,02%, 28 bps above their Euro Area counterparts.

- The NFC sector, for the Euro Area MFIs, is more sensitive to the interest rate fluctuations and obviously there is little hesitation in rebalancing its loan maturities. This implies that the NFCs in the Euro Area are more responsive to interest rate fluctuations and are bargaining for lower rates.

- Analysis in Chapter 6 reveals that the NFCs in Cyprus did not have time to react and shift their deposits to higher yielding accounts and /or to refinance their loans with more attractive and lower interest rates. Moreover, further analysis revealed that the NFC sector in Cyprus presented strong loan demand throughout 2007.

- The Government sector is important for the Euro Area MFIs, since it involves 7,90% of the total Euro Area loan book with an actual spread of 2,05% and a 3,85% return on the sector. Cypriot banks seem to outperform their Euro Area counterparts with a spread of 3,02% and a 5,16% return on the sector. However, the Government sector accounts for only 4,40% of the Cypriot banks loan book.

Conclusively, the spreads and the return on the sectors studied in Chapter 6, along with the level of the deposit and loans with their respective rates for the Euro Area MFIs and Cypriot banks, are presented in Tables 7.1 and 7.2 below. The associated loan and deposit rates are derived from the research and methodology approach as adapted in Chapter 6. The spread is their net difference, while the return is an extract of the conducted research in Chapter 6.

Table 7.1 Institutional Sector Mix of Euro Area MFIs as at 31/12/2007

Euro Area - MFI Sectors	Loans (€trillion)	% to total Loans	Loan rate (%)	Deposits (€trillion)	% to total deposits	Deposit rate (%)	Spread (%)	Return (%)
Households	4,81	39,8%	5,36	4,99	50,04%	2,59	2,77	2.66
Housing Loans	3,43	28,41%	5,15			2,59	2,56	
Consumer Loans	0,617	5,10%	8,32			2,59	5,73	
Non Financial Corporations	4,39	36,37%	5,57	1,47	14,74%	2,83	2,74	4.62
Government	0,956	7,92%	5,00	0,37	3,74%	2,95	2,05	3,85

Source: European Central Bank, 2008

Table 7.2 Institutional Sector Mix of Cypriot Banks as at 31/12/2007

Cypriot Banks – Sectors	Loans (€billion)	% to total Loans	Loan rate (%)	Deposits (€billion)	% to total deposits	Deposit rate (%)	Spread (%)	Return (%)
Households	17,89	43,4%	6,26	24,92	47.45%	2,95	3,31	2,58
Housing Loans	8,05	19,53%	5,92			2,95	2,97	
Consumer Loans	3,16	7,66%	7,62			2,95	4,67	
Non Financial Corporations	19,33	46,9%	6,26	6,53	12,43%	3,24	3,02	5,16
Government	1,81	4,4%	6,26	0,27	0,51%	3,24	3,02	6,21

Source: Central Bank of Cyprus, 2008

Interestingly enough and as mentioned above, Tables 7.1 and 7.2 reveal that Cypriot banks are operating in a higher loan and deposit rate environment than their Euro Area counterparts. The only area of operation that the Euro Area MFIs enjoy higher spreads than Cypriot banks is the sub sector of the consumer credit. Another interesting finding, regarding the assessed institutional sectors, is that their associated loans for the Euro Area MFIs stood at 84,09% and their deposits at 68,52%. For Cypriot banks, the examined loans stood at 94,7% and the deposits at 60,39%. Although the project study was preoccupied with and identified, the household and the NFC as the most important sectors of banking operation in the Euro Area and in Cyprus right from the start, the differences of the level of deposits and loans between the two banking sectors are noted.

7.3 Recommendations:

There are specific recommendations that surfaced during and at the conclusion of the study. The recommendations outlined below are derived from the research performed on the subject of the pricing factor as at 31/12/07.

Strong liquidity ratios: The strong liquidity ratios of Cypriot Banks point to the level of the increased deposits. The deposits on the island and especially the non-residents deposits are showing an upward accelerated trend. Furthermore, the retail client base of Cypriot banks enabled them to escape the credit crunch, since the deposits are not concentrated in corporate funding. The strong liquidity ratios enabled the two major banks in Cyprus to grow outside their geographic region and establish operations in Greece, in Russia and in South Eastern Europe. The growth of Cypriot banks is correlated with their deposit growth as discussed in Chapter 5. Although this is a highly sensitive matter, the Cypriot banks should also try to find ways to disengage their dependency on the deposits' growth. The Euro Area MFIs cope in their economic environment through the interbank market. Cypriot banks however are already active and have been operating in the interbank environment before Cyprus' accession to the Euro Area. Additional sources of funding should be explored from the ECB. In periods of liquidity drains, a good option is the securitisation through covered bonds. Securitisation is the process through which an issuer creates a financial instrument by combining other financial assets and then marketing different tiers of the repackaged instruments to

investors. The process can encompass any type of financial asset and promotes liquidity in the marketplace.

Interest rate issues:

The interest rate environment at the beginning of 2007 seemed favourable to Cypriot banks. The local banks kept a "do nothing" stance to their loans and deposits, since upon accession to the Euro Area, the interest rates would adjust to the euribor rates. However, as discussed extensively in Chapter 6, the CCB had a different opinion. The CCB ruled out that loan agreements that commenced prior to the Euro Area accession should remain pegged to the ECB's base rate of the minimum bid rate on the main refinancing operations. This decreased the existing loan rates by 50 basis points, causing a decrease in the net interest income of over €136,00 million (excluding the Co-ops). Cypriot banks appeared reluctant to adjust their loan agreements prior to the Euro Area accession clearly because of the favourable interest rate environment. An aggressive move to adjust to the new environment with specific products actually was not made not only by the local banks but by foreign banks operating on the island.

Although this matter appears as a calculated risk by the local banking sector, I would recommend to other banking institutions that are subject to accessing the Euro Area to strategically develop or even offer tailor-made solutions for specific sectors, special products that are pegged to the euribor rates. This will have a multiple fold effect: a) it will provide a

competitive advantage, b) human resources will become more familiar with the new currency and operating environment, and c) it will avoid administration, implementation costs and precious man-hours developing products and communicating with clients about the imminent developments. Moreover, a harsher approach is to include special clauses in the loan agreements regarding the transformation of the rates upon accessing the Euro Area.

Deposits:

The deposits of the local banks appear disoriented to the Euro Area MFIs. The deposit analysis performed in Chapter 6 between the Cypriot banks and the Euro Area MFIs reveals that most of the deposit rates in the Euro Area are higher compared to those in Cyprus. Only the 3-month notice deposit rate compared to the respective Euro Area MFI's deposit rate is higher. Moreover, the time analysis in Chapter 6 reveals that in Cyprus the 3-month trend is increasing while the one-year trend is heading exactly in the opposite direction. On the contrary, in the Euro Area the one year deposit trend is steadily increasing.

Nevertheless, the Cypriot banks weighted deposit rate is higher than their Euro Area counterparts, showing that the Cypriot banks' customers demand higher deposit yields, without engaging in long-term maturities.

To avoid unnecessary flow of deposits to overseas deposit accounts with attractive deposit rates and, more importantly, to ease the potential of

attracting competition in the local market, Cypriot banks should anticipate the developments / trends and offer competitive fixed income products before the local trend reverses. Unfortunately, market developments precedent to the published data from the official sources and the analysis followed enforced on the local market a reversal in the deposit habits. Foreign institutions (at first), in correlation with strong global market conditions, spurred a "deposit rate war", attracting deposits at yields higher than the ones mentioned throughout 2007 and by the end of 2007. Any recommendation about the deposits for the local banks will practically have no use, because of the time lack of the findings. Financial institutions, however, that are accessing the Euro Area in the future, should be well aware and prepare for this kind of situation. The local banks in Cyprus appeared unprepared to tackle the "deposit war rate" and fight back. Based on data from the Cyprus central bank it took them actually 3 months to balance the situation. The strong liquidity of the local banking sector was a serious overweighting factor that provided sufficient time to recoup and counter attack with their high yielding deposit products.

Household sector:

It is the most concentrated sector for both areas. Euro Area MFIs handed more than 39,80% of their total loans, while for Cypriot banks the number is 43,40%. What is more interesting, however, is that the sector provides liquidity for the Euro Area MFIs and Cypriot banks, since the deposits percentage on the total deposits is at 50,04% and 47,45% respectively. Comparing the amount of deposits to the amount of loans of the

household sector alone, it is concluded that Cypriot banks have 39,00% more deposits than loans. Euro Area MFIs have hut 3,70% more loans than deposits. This fact is holding back the return of the household sector for Cypriot banks.

The household sector, for the purposes of the project study, is broken down to housing loans and consumer loans. The housing loans constituted 71,00% of the Euro Area MFIs household sector and 45,00% for the Cypriot banks. What is interesting about the Cypriot banks is than the loan mix is completely different compared to the Euro Area MFIs. The Table below is associated with the Household sector in both areas and it shows the mix percentage-wise to the total household loans and the total loans.

Table 7.3 Euro Area and Cyprus Household Sector Loan Mix

	Housing Loans	%to Household loans	%to Total Loans	Consumer Loans	%to Household loans	%to Total Loans
Euro Area MFIs	€3,43 trillion	71,30%	27,31%	€0,617 trillion	12,82%	5,10%
Cypriot banks	€8,05 billion	44,99%	20,22%	€3,14 billion	18,57%	7,60%

Sources: European and Cyprus Central Banks, 2008

Following the analysis of Chapter 6, the net return of the Euro Area MFIs on the sector was calculated at 2,66%, and for Cypriot Banks at 2,58%. Considering the fact that Cypriot banks have a higher housing loan rate and a lower consumer lending rate than their Euro Area counterparts, their actual loan mix (housing loans and consumer loans) resulted in higher

spread compared to the Euro Area MFIs. The housing and consumer loans are discussed further in the sections that follow.

Housing loans:

Comparing the two sectors, the housing loans have a completely different picture than the consumer loans. The Cypriot banks' percentage of housing loans to the total household sector is at 44,99% and is well below the Euro Area MFIs, that are at 71,30% to the total household sector (Table 7.3).

The household sector for Cypriot banks appears unbalanced, compared to the Euro Area MFIs. Cypriot banks have enough room for advancements in the specific sector. It is recommended to increase their level of housing loans. Moreover, based on the time analysis of the housing loans on Chapter 6, Cypriot banks should provide longer repayment options.

Consumer loans:

The consumer loans in the Euro Area seem to correlate steadily with the total loans of the household sector at around 13,00% (as the analysis on Chapter 6 revealed), while in Cyprus the data reveals that the corresponding number is at 18,57% and the trend is increasing. The consumer loans in the Euro Area are just above 5,00% of the total loans and for Cyprus are 7,60%. It seems that Cypriot banks are more generous in handing out consumer loans than their Euro Area counterparts. It has to be taken into account, however, as mentioned in

Chapter 4, that Cyprus is still trying to meet the Euro Area averages. This translates into the enhancement of personal and consumer needs that the elevated quality of life is a standard in the new economic environment. However, the level of household loans in Cyprus is higher than their Euro Area counterparts. Caution is recommended here, since the high yielding consumer loans also translate into higher risk assets. Moreover, it should be taken into account that the consumer loans appear to have the highest spread for Cypriot banks. The same applies for the Euro Area MFIs, which in this case outperform the Cypriot banks by far. The return though is much higher for the Euro Area MFIs, because the deposits are relatively much lower in relation to the level of loans.

Although the sector can be characterised as risky, the repayment habits of consumer credit show that most of the total loans, more than 44,00% of the total consumer credit, are repaid after the 5 year repayment period.

For the particular sector, it is recommended to either moderate the level of consumer loans and/or proceed with consumer rate hikes.

Non financial corporations (NFC) sector

It is the most profitable sector for the Euro Area MFIs. However, the return of Cypriot banks is considerably higher than the Euro Area MFIs. It is the second largest institutional sector of the Euro Area MFIs, since their concentration is at 36,37% of the total loans, while for the Cypriot banks the percentage is at 46,90%. Looking at the sector from the deposits

perspective, Tables 7.1 and 7.2 the NFCs in Cyprus hold 12,40% of deposits compared to the total deposits, while their Euro Area counterparts hold 14,70%. Therefore, taking into account that Cypriot banks have more loans and fewer deposits compared to the Euro Area MFIs and have more favourable spreads, it is concluded that their mix compares constructively, to the Euro Area MFIs. Moreover, following the analysis on the specific sector from Chapter 6, regarding the actual return on the sector, it is noted that a big chunk of the NFC loans are not associated with new business, but are treated as outstanding amounts.

Clearly the Cypriot banks are more exposed to the sector and are posting a higher return, compared to their Euro Area counterparts. However, the Cyprus economy as outlined and assessed in Chapter 4, is in a transitional phase. Traditional sectors of the economy such as the tourist and agriculture industry are deteriorating. A cautious approach is recommended for Cypriot banks as they appear not only overexposed compared to the Euro Area MFIs, but are also facing sectoral restructuring risks.

Proceeding with the overview of the Cyprus economy in Chapter 4, regarding the restructuring of the local economy, I would recommend to Cypriot banks to hand out loans to businesses that are associated with financial professional services/business activities, the health industry and the education industry. Parallel to that, I would recommend to them to avoid, or even reduce their exposure on the tourist industry, the agriculture

and mining industry sector and also the manufacturing industry. Also, the time analysis on the NFC loans revealed that the sector is sensitive to interest rate fluctuations. This characteristic has to be taken into account, when designing new products for the NFC sector and offer more flexible refinancing options when interest rates fluctuate.

Government sector

It appears as the most profitable sector for Cypriot banks. However, only a 4,40% of their total loan portfolio is associated with the sector, in contrast to the Euro Area MFIs that hold more or less 7,90%. It is interesting to note the differences in the operation of the Government sector in Cyprus. Prior to the accession to the European Union, the Cyprus Government was securing all loans associated with local and state authorities and municipalities. In the new European environment and moreover in the recent economic transition to the Euro Area, the situation has changed. State, local authorities and municipalities have to provide security/collateral for their associated loans. As the transformation process is under way, the government sector appears very slow to adapt to the new circumstances. Cypriot banks should be aware of the opportunities that the Euro Area MFIs are grasping in the specific sector. It is highly recommended that tailor made products should be offered selectively to the different segments that comprise the Cyprus Government sector. A threat to Cypriot banks though, is not the foreign banks competition (that is taken for granted) but is rather the Coops that have stronger communal and civil relationships with boards of the Cypriot Government sector.

Therefore, Cypriot banks have to approach the matter from the perspective that the Euro Area is a single monetary union and offer these services and products in the Euro Area Government sector and not only in Cyprus. Specifically, in economic periods/cycles of excess liquidity, I strongly believe that Cypriot Banks should adopt this recommendation.

7.4 General Commentary:

It is imperative that the Cypriot banks will have to go through the harsh process of adjusting their loan books and their deposits books to the new economic environment. In particular, the deposits as is pointed out throughout the project, are already aligned with the new situation. What is actually needed though is to adjust the new business, products and interest rates to the euribor rates. Although the CCB's monetary committee, with its decision on 21/12/2006, has caused the local banking system a loss of interest income, it has proved a wake-up call for the new economic environment. Cypriot banks are now fully aligned with the new interest rate environment, since all the new business generated throughout 2008 is associated with the euribor rate. Moreover, the excess liquidity that results from an excellent mix of local and foreign deposits is boosting their expansion plans outside the geographic region of Cyprus. Even though this venture was successfully attempted by the majority of the large local banks in the Greek market, the data on hand suggest that the expansion can be accelerated. Already in 2008, two major Cypriot banks announced the acquisition of small Russian banks.

Although it is expected that the margin spreads for the Cypriot banks will remain squeezed, the Cyprus economy has some catching up to do regarding its Euro Area averages. This is an advantage for Cypriot banks, because despite the economic cycles ahead of the economy, the benchmarks set by the Euro Area are still high.

The considerable work performed in this research study has led to specific conclusions and findings regarding the pricing factor of Cypriot banks prior to their accession to the Euro Area. The assessment of the Cyprus economy compared to the Euro Area economy has shown that, although the Cyprus economy is below that of the Euro Area, economic average indicators surpass the Euro Area in the most major economic indicators. Specifically, it outperforms the Euro Area in growth percentage, unemployment rate, government and fiscal debt. The only economic indicator that is not compared favourably is the inflation rate. In Chapter 5 the assessment of the banking structures between the Euro Area MFIs and the Cypriot banks was examined. There is no argumentation that Cypriot banks are way behind their Euro Area counterparts in respect to operational and competitive issues. However, it is noted that the deposits and loans growth of the Cypriot banks is faster than the Euro Area MFIs, Cypriot banks are growing faster. In Chapter 6, the actual pricing of the Cypriot banks was put under perspective relative to the Euro Area MFIs. Overall, the loan and deposit spreads of the Cypriot banks compare favourably to their Euro Area counterparts. At the end of Chapter 6 and at the discussion section of Chapter 7, it is obvious that the deposit and loan

mix of Cypriot banks compared to the Euro Area MFIs is completely different.   However, the reader has to take into account the current economic situation on the island, the interest rate irregularities precedent to the island's accession to the Euro Area and the sectoral restructuring of the local economy.

Although the research on the specific project study has come to its end, I strongly believe that it will provide the foundation for further research on the subject of the bank's pricing factor upon accession to the Euro Area. The specific research project concludes that Cypriot banks are in an excellent position to face the new challenges in the new economic environment, the Euro Area. Excluding the housing loans sub sector, the actual spreads of the institutional sectors under consideration were in absolute favour for Cypriot banks. Inevitably, some adjustments have to be made to fine tune their operations and keep their competitive advantage in the near future.   The conclusions, findings and recommendations as outlined in this Chapter are actually aligning the Cypriot banks to the new economic environment, in order to compete evenly with their Euro Area counterparts.

The single European currency economy is evolving to a more mature, regulated and world competitive economy. Expanding and joining forces with other economies is a long term strategy for the Euro Area. The credit crisis of 2008 will most probably accelerate the expansion of the Euro Area in the near future. During the credit crisis a number of European

member states, that are not members of the Euro Area, did not hesitate to admit that if their economies operated in the Euro Area, their economic situation would not have been so severe.

Nevertheless from the fact that the Euro Area has been operating for merely 10 years now, there is a vast number of working papers regarding the further integration and regulation of the banking and financial sectors. In this project study, the pricing factor of the Cypriot Banks was assessed upon Cyprus' accession to the Euro Area. Specifically, the most vital institutional sectors of the Euro Area banking sector (the household, the non-financial corporations and the governments sectors) were compared and examined. Moreover, the examination considered the performance of the Cypriot banking sector in relevance to the European monetary financial institutions (MFIs). Essentially the level of the deposit and loans, the relevant interest rates, the spreads (the net interest margins) and the return of each sector in respect to each banking sector were examined. In this Chapter, a number of conclusions and findings are outlined. These conclusions and findings are also associated with the analysis performed in the subjects of the economy and the banking structures.

Although the research project is identifying an event (the Cyprus accession to the Euro Area) at a specific date/snapshot (as at 31/12/2007), in my humble estimation this project study may, to some degree, benefit other banking organisations and institutions that are on their way in joining the Euro Area.

CHAPTER 8

REFLECTIVE AND REFLEXIVE LEARNING

8.1 Introduction:

At the end of this project and looking back at the very beginning of the DProf programme, one should ask himself if he has added knowledge upon himself and if his/her organisation actually benefited from the research project. This Chapter is reviewing the learning accumulated by the researcher, in this case me, and the value added to my organisation. The Chapter is actually looking back to the DProf programme and is assessing not only the programme but the actual research project as well.

8.2 Previous Learning:

In the first part of the module, the accreditation of the previous working experience - the RALs, I had the chance of reviewing on my past academic and working experience. During my postgraduate degree at the Robert G. Merrick School of Business in Baltimore, I was working for the Economics department as a graduate assistant. I was lucky enough to get involved with the Regional Economics Study Program, developed by the University's economics department. The economics department published every three months a regional economic outlook forecast for the next three months. Coming from a heavily mathematical background, by that time I have completed a Bachelor of Science in Mathematics and a Bachelor of Science in Electrical Engineering, my duties were to locate the necessary data, to keep the data consistent from the previous period, supervise the

data input and also input data my self. Moreover, since the first job I took in Cyprus was market research through AMER (American Middle East Research), one of the leading market research companies in the Middle East, I was very comfortable with the idea of research. I had extensive experience and friction in the areas of field research and especially in surveys and focus groups. I was able to handle all the major steps of field research such as: selection of interviewers, interviewer training, sampling, standard random walk procedure, field controls, coding instructions, doing/editing tables and classification of occupation by social class. Moreover, I was also trained in the construction of questionnaires, in the implementation of surveys according to the sample and most importantly in data analysis implementation at the end of the survey. Although field research was not my major occupational involvement in the company's operations, my friction with the area of research was actually making me anxious to get my project study up and running.

8.3 Learning from the DProf Programme:

During the DPS 4561 module, "Planning a Practitioner Research Programme", I had the chance to review and investigate extensively into the major methodologies and epistemologies used by the practitioner researcher. It was at that point that I realised that academic research is completely different and more complex than field or market research. First, in order to set out a structured methodology of my research project I had to clarify the following: main purpose of the research, my role in the research, nature of knowledge, criteria on quality of the research and if my

values are affecting my research. Then a review of the research approaches, families and techniques was undertaken, in order to set up my combination for the purposes of the research project.

Looking back at my research statement and research questions as raised through the module, I realise now that I could refine my main objectives more specifically to the subject of the pricing factor. For instance, in order to asses and understand all the factors and their characteristics that shape up the pricing of banking institutions in the Euro Area and Cyprus, I had to asses the two economies and the two banking structures before proceeding with the major research questions. During the literature review, I found out that there was almost no material on the pricing of banking institutions in the Euro Area but also the material for the Cypriot banking sector were very limited. That posted a very serious consideration of proceeding with the project study, since it would essentially provide the foundation on further research on the subject but also (and maybe) set a benchmark for other banking institutions that will asses the Euro Area in the near future. Furthermore, there was no substantial research on the matter that I could actually pick up and continue with the subject of the pricing factor. This fact I believe put a hinder in my project study, since a big part of it is consumed in the comparison and evaluation of the Euro Area and Cypriot economies and banking structures before proceeding with the actual evaluation of the pricing factor. Nevertheless, the evaluation of the pricing factor of the local banking system towards the Cypriot's economy accession to the

Euro Area economy could not be performed without evaluating the economies and the banking structures first. That was essential however, because their main characteristics and irregularities constitute the operation and business development of the banks within the Euro Area, that eventually shape their pricing policy. What I would do differently another time, is that I would choose my research statement differently. Perhaps, the most relevant research statement I could formulate is "the interest rate dispersion towards Cyprus' economy accession to the Euro Area economy". The specific research statement would not alter the research process and since my audience would still comprise of banking institutions, the focus of the research study would be on the dispersion of the rates and how they would affect the Cypriot banks. Although the proposed new research statement is way off the specific subject of the pricing factor, I have discovered in my literature review that the specific new statement is troubling regulators and banking institutions throughout the Euro Area. Even so though, the issue of the uniform interest rates dispersion in the Euro Area is an issue that is troubling banking institutions after their accession in the Euro area. On the other hand, my project study is solely occupied with the transition of accessing the new economic environment and is has some relevance to the dispersion of the interest rates across the Euro Area.

Looking back at my combination of methods, my research approach was case study and I applied quantitative data for the analysis and presentation. I strongly believe that the case study was the most

appropriate approach to be used, since the subject is concentrating on the pricing factor as the area of investigation. The comparative nature of case studies, along with the data collection, allowed me to perform comparative analysis not only between the Euro Area and Cyprus economies and banking structures but also between the pricing factor, the spreads and the net interest margins as well. All the data gathered for the purposes of the research project are collected from documents mainly from the ECB, the CCB, the Cyprus and European Statistical Services (official secondary sources). The large amount of data was compiled into numerical information that included basic statistics, including comparative analysis. Furthermore, this data collection method and the comparative analysis were outlined in my research proposal. At this point however, I am pointing out that the research statement and questions as derived from my research proposal did not actual involve advanced statistical analysis. Although it is stated in my research proposal that whenever possible data analysis techniques such as frequency distribution, tables with means and standard deviations and correlations will be used, the research conducted in the subject of pricing did not actually need to facilitate such analysis techniques. This is one more reason for what I would do differently the next time. The main reason for this is not that my current research project is not covering the pricing subject to its entirety, but is also understandable that for a DProf thesis this kind of detail may be essential. In the case that I would chose a different research statement and question (as for example the one stated on the previous paragraph) then the use of advanced statistical methods would prove inevitable. However, the vast amount of

data and research conducted on the subject of pricing I believe compensates for the lack of advanced statistical analysis. On the other hand, let me remind to the reader, that it was not necessary to perform advanced statistical analysis because the subject by itself and the associated data did not allow it.

8.4 Experiential Learning Theory:

According to the MUWBL modules guide on page 199 and based on Kolb's (1984) experiential theory learning (ELT), at the project module, I am placed at the stage of "active experimentation". The ELT model identifies two dialectically related modes of grasping experience – *concrete experience* and *abstract conceptualisation* theory – and two dialectically related modes of transferring experience – *reflective observation* and *active experimentation*. Kolb's (1984, p 228) states that:

> According to the four stages learning cycle immediate and concrete experiences are the basis for observations and reflections. These reflections are digested and distilled into abstract concepts from which new implications for action can be drawn. These implications can be actively tested and serve as guides in creating new experience.

Each dimension of the learning process presents us with a choice. Because of our hereditary equipment, our past-life experiences, and the demands of our present environment, we develop a preferred way of choosing. Concrete or abstract, active or reflective this conflict is resolved in some patterned characteristic ways – these ways are called *learning styles* (Sternberg et al, 2001).

Taking into account the ELT and thinking right in the beginning of the project, before even preparing the proposal of the project study, the major research area of questioning was the actual accession of Cyprus to the Euro Area. Although, it was at the time a debated subject through the political world and there was a local and European campaign regarding the accession to the new economic environment, the facts pointed out to the island's imminent accession to the Euro Area. At that point I reckon (abstract conceptualisation) I was orienting my self to that vast area of the research topic. Taking into account my working experience, my organisations' role in the new environment and my position in the organisation I decided that my subject should be directly related to the future operations and profitability of my organisation. The research statement and questions of the project study, along with the considerations that by the time that my project study would be finished, in late 2008, I knew that the economy and my organisation would already have the experience of the new economic environment (concrete experience). Therefore, in the process of my research study, my research statement and questions were actually involved in the process of the Cyprus' accession to the Euro Area (active experimentation).

8.5 Reflection-in-Action:

I am rather happy with the topic of my thesis since it has proven relevant with the on going economic development on the island. It has an actual value in its social context, since it identifies the major factors that are shaping up the pricing factor of a bank's institution upon its accession to

the Euro Area, and more specifically for the Cyprus banking sector. Moreover, the derived recommendations can provide added value to similar situations for other banking institutions that will face the transition to the Euro Area economy also. Since the beginning of the year, two market events occurred that actually gave my research topic a different perspective. As a reminder to the reader my project study is examining the pricing factor of a banking institution as the economy is accessing the Euro Area economic environment as at 31/12/07.

At the moment of handing in my research proposal I had my doubts (as this is my first PhD project) of the actual inquiry, research statement and research questions. Nevertheless, this doubt ness and uncertainty, leaded to specific results, conclusions and findings regarding the research statement. What actually happened is that a deposit war started at the end of the first quarter of 2008, while in the last quarter of the year liquidity problems surfaced for the Cypriot banking sector. In the process of evaluating the economies and the banking structures, a number of findings and conclusions affected the pricing factor of the Cypriot's economy to the Euro Area. In the process of binding up the project report and evaluating the numbers on hand, during 2008 the real factors that affect the pricing factor and the pricing policy surfaced. As Schon (1983) stated ″knowledge is in the action″, coming to know is self-consciously active and inherently connected to the situation at hand.

However, one of the major disadvantages of the project study is that the project study is concerned with the situation as at 31/12/07. It is also stated clearly in my research proposal, the assessment of the new situation will happen as at 31/12/07. The project study provides a snapshot of a situation and that situation is evolving constantly. Perhaps, the next time, or if I could propose the project again retrospectively, I would recommend that the research project to follow in further research of the factors that are affecting the pricing factor. Furthermore, the timing limitation on the project study put an obvious strain to my organisation. As the project study is completed by the end of 2008, it is actually assessing a situation as at 31/12/07. Moreover, the conclusions and findings along with the recommendations did not complete until it was too late to take action. I am not sure and I don't see how I could complete the research study sooner, but the market and the practical implications that the Cypriot banking sector that was and is currently faced are directly related to the findings of the project study.

In addition to the above, I realised that certain research questions as raised through my research proposal, proved to be irrelevant and time consuming, in relevance with my research statement. For instance the "member's states experience of accession to the Euro Area" had nothing to do with the pricing factor issue and moreover, in the literature review it consumed a lot of time just to find out that there were no related material to my research statement regarding the new member states. Besides, the specific research question, could also post a completely new research

statement for another PhD thesis. Definitely what I would do differently the next time is to pin point exactly at the problem and formulate a research statement that it will not give me too much space of researching the various aspects of it, but it would rather point me and lead me to specific problem – research statement.

8.6 Critical Assessment:

Reflecting back on the work performed in each stage of my research project, I recall that in every Chapter that I was preparing something new was adding to my learning. Right from the beginning, in my literature review on the subject I realised that a lot of work in the territory of the Euro Area and the interest rates environment was performed by practioners and not academics. A closer look on the subject however, revealed that the practioners were also academics that work in the field of economics, more particular in Central Banks of Member States or in the ECB.   Therefore, reviewing their work I was able to match my combination of methodologies together. Furthermore, in the process of research for the subject of pricing, I realised that there was really no other associated research directly related to the subject. This fact alone has made me to realise that my research project is highly specialised.

Although the project findings and conclusions, point to specific related problems, a survey was not facilitated in the project study. The main reasons for not facilitating a survey is that it would only provide a snapshot of opinion, there were issues of truthfulness and accuracy since the

subject of the Euro Area was politically debated and the survey would be small scale. Excluding the survey from my project study, I essentially excluded questionnaires and interviews as research techniques. What I would do differently, thinking retrospectively about it, is to interview a number of local individuals that are directly related to the subject, such as: government officials from the Ministry of Finance, the Governor of the CCB and senior officers from local banks. That would add a different perspective on my findings and more importantly, it would orient my research efforts to specific factors that each and every one of these individuals would have pointed out. Although the interview technique requires time and administrative support, the number of interviews is not that high as to prohibit the implementation of this technique. The interview technique it would most probably have given me the right direction to complete sooner and in a more efficient way the whole project study.

Following my research proposal, my role in the research was intended as an insider participant observer. Although it is stated in the research proposal that my personal standard is to overcome this perception and deliver my findings without prejudice and bias, since the major goal is for the project to be intact from internal and external interventions. I tried to do so, but market conditions and work related issues, I believe were conflicting to some extent for my duties. For instance in July 2008 the bank of Cyprus, has issued capital securities to the public. Although the underwriting has been performed by the company I work for (the Cyprus Investment and Securities Corporation – CISCO) I was also involved as

the head of the brokerage department in the selling of these securities. Based on my knowledge that far, I knew that the issue of the capital securities had a two fold effect: first, to sustain operation in the Russian market and second, to provide liquidity for the local operations. At that time and according to my findings and conclusions, I strongly agreed with the first effect, I could not see the reasoning however for the second effect. I was thinking that it would be a rather expensive way of financing local operations. Nevertheless, I was still in the selling force and more particular I was leading a team of professionals trying to push the issue to the market. That situation, I believe it was the only time that I felt that my duties and work were conflicting to the accumulated knowledge that was gained from the project.

8.7 Reflexivity:

The advantage of the work-based research is that it has relevance to work, through the line of work and through direct application. Work based research that focuses on improving current practices and tangible outcomes is often referred to as Research and Development. This however, raises issues since the work based researcher constructs his/her knowledge on an individual basis. Therefore the work based researcher has to be subjective through his/her reflexivity. The work-based researcher has the advantage to develop the practice through the critical examination of the relation of theory.

In the case of my research project, the research statement and research questions as researched and evaluated have a direct impact on the operations of my organisation. Although, the accumulated knowledge acquired by my research project is more or less and at some extent known to my organisation, the findings, conclusions and recommendations posted in the last Chapter of my research project are directly related to future strategy, which is not implemented at the moment by my organisation. Furthermore, they can be used in cases were my organisation has operations in member states that will access the Euro Area in the near future. As an insider participant observer, one could argue that I was perceived as too close to the research statement and research questions. My past and present duties however, did not actually involve any influences and added pressures form my superiors. On the contrary, I was able to perform the research project, intact from current strategies and expectations of my organisations. Thus, by keeping an independent point of view on the subject I was able to perform my research project objectively. Certain implications that could arise from the use of data were quickly vanished for two reasons: first, the data collected and analysed were from official sources and were related to the banking sector as a whole and second, the data upon release of the project would be outdated. Therefore, my organisation could see the overall results of the Cypriot banking sector and correlate the overall findings with its internal strategy and current position.

Last but not least, the social context of the current market conditions, are somehow affecting my organisation, since the lending interest rates are pushed up by the Cypriot banks. It is concluded however, in my research project that the Cypriot banks are operating at favourable margins and are on an advantageous position compared to the Euro Area MFIs. It is understandable that publication of the project study, will finger point not only my organisation but the Cyprus banking sector as well.

Overall, the DProf programme has provided me with a specialisation in knowledge and understanding of the banking sector and in particular, the effects that the banking sector has upon accessing a new economic environment. For my organisation, I believe it has provided a clear set of conclusions and findings regarding the operations of the Cypriot banking sector within the Euro Area. Most importantly, the recommendations as outlined in the last Chapter of the research project will supply my organisation with the necessary tools to grow, operate smoothly and compete effectively within the Euro Area economic environment.

CHAPTER 9

COMPARING WITH THE GREEK BANKING SECTOR

9.1 Introduction:

This Chapter is reassessing and examines the Cypriot banks with another relevant Eurozone member state, using a new set of data but also incorporating my research analysis, design and general analytical strategies performed on the research project.

In order to compare different Euro Area countries to Cyprus, in respect to the banking sector, an extension of the methodology that was used in the research project can be incorporated for a specific country. Instead of looking at the European Central Bank for consolidated data regarding the whole of the Euro Area, data can be used for a specific country. The data can be gathered either from the ECB data base or from the specific Euro Area country data base. A Eurozone country that is vital to the operation and profitability of the Cypriot banks is Greece, since their expansion began 10 years ago. Moreover, since all three major Cypriot banks are operating in Greece for the last ten years now, it is more useful to compare the Greek banking sector to the Cypriot Banking sector, for my stakeholders. Data availability for the Greek banking sector can be obtained directly from the Bank of Greece that has the corresponding responsibilities of the Cyprus Central Bank.

Although the data set that will be used are components to the vast data base that I used in my original examination, data from the Bank of Greece can be characterised as "disaggregate" regarding the ECB data set, since the comparison and the analysis will be performed between the Cypriot and Greek banks. If more relevant or robust results are obtained, this is something that the research study points out in the findings section on this Chapter.

All data sets will be used as at the end of 2007, the time period that Cyprus has joined the Euro Area.

9.2 Greek and Cypriot Banking Structures:

Before assessing the loans, deposits and the different level of the spreads that exist between the two banking sectors, this section will focus on the banking structures of Greece and Cyprus.

The Table below is indicative of the number of credit institutions that exist in Greece, Cyprus and in the Euro Area:

Table 9.1 Greek Number of Credit Institutions

	2004	2005	2006	2007
Euro Area	6.623	6.427	6.271	6.157
Greece	62	62	62	63
Cyprus	405	391	336	215

source: European Central Bank, 2009

Following the analysis performed on Chapter 5, it was identified that the Euro Area MFIs and the Cypriot credit institutions were on a consolidation

trend. Interestingly enough, it was identified from Chapter 2 on the literature review that the integration is not happening at the broad Euro Area level, but rather within the regions and specific member states within the Euro Area. The above Table reveals that the Greek banks are not going through any consolidation and their number is stable, contrary to the overall Euro Area and Cypriot trend. Moreover, the presence of cooperatives is very limited, contrary to the Cypriot banking sector.

Moreover looking at Graph 5.1 on Chapter 5 and page 131, it is identified that the Greek banking sector is a little bit more concentrated than the Cypriot banking sector. The market concentration of the 5 largest banking institutions in Greece is a little below 70,00% (Graph 5.2 on page 5 and page 132), slightly higher than the Cypriot banks that were a little bit above 65,00%, but substantially higher than the Euro Area banks that is around the 44,00% area.

According to data from the EU Banking Structures as at the end of 2007 (ECB, 2008), the number of branches per 10,000 citizens in the Euro Area was 5.7, in Greece was 3.4 and in Cyprus an astonishing 11.68. For the Cypriot banking sector the explanation for this anomaly is mainly attributed to the large number of coops and is thoroughly explained on page 126. For the Greek banking sector however, the low number of branches compared to the Euro Area and also to Cyprus, suggests that there is room for further expansion.

9.3 The Deposit Rates:

In order to compare and asses the Greek and Cypriot banking sector the deposit rates of the Greek banking sector are identified as reported from the Bank of Greece.

As a reminder to the reader, the Cypriot deposit rates of the local banks are displayed on Table 6.3 in Chapter 6, page 162, and the interest rates on the deposits of the Euro Area MFIs as indicated on page 163 on Chapter 6.

The Table below is providing an overview of the deposit rates in the Greek banking sector:

Table 9.2 Overview of Deposit Rates in the Greek Market

Greek Banks Deposit Interest Rates as at 31/12/07		%
Deposit Rates (%)	Overnight deposits	3,86
	3-months deposits	4,28
	12-months deposits	4,45
Euribor Rates as at 31/12/07 (percentages per annum)		%
Interbank offer rate (overnight)		4,35
Interbank offer rate (3-month)		4,58
Interbank offer rate (12-month)		4,77

source: Bank of Greece, 2009

A quick comparison between the Greek banks deposit rates and the corresponding interbank Euribor rates, reveals that the spread on the overnight deposits is at 49 bps, the 3-month rate is at 30 bps and the 12 month rate is at 32 bps. Considering the consecutive deposit rates for the Cypriot banks (Table 6.3, Chapter 6, page 162), it is identified that the Greek banks are operating closer to the Euribor rates than the Cypriot

banks. Since Greece has joined the Euro Area in 2001 it is expected that the level of the interest rates of the Greek banking sector to be closer to the Euribor rates, compared to the Cypriot banking sector.

As a reminder to the reader I am tabulating the interest rates on the deposits of the Euro Area MFIs as indicated on page 163 on Chapter 6. In order to compare the spreads that exist among the Greek banks and the Euro Area MFIs, a comparison of the interest rates on deposits for the Cypriot and the Greek banks produces the following Table:

Table 9.3 Deposit Spreads Between Greek and Cypriot Banks

CY		GR		Difference (in basis points)
Deposit type	Spread	Deposit type	Spread	
Current Accounts	268	Overnight (Households)	49	219
3 month notice	76	3 months deposits	30	46
1 year fixed deposits	45	12 months deposits	32	13

sources: Cyprus and Greece Central Banks

From the above Table it is concluded again that the Greek banks are operating at very close spreads compared to the corresponding Euribor rates. Also it reveals that the Cypriot banks are operating with higher spreads than the Greek banks. However, comparing with Table 6.5 on Chapter 6 in page 164, it is noted that the Greek banks are operating at worst spreads than their Euro Area counterparts.

Unfortunately, the Bank of Greece has no information on the deposit rates of the non-financial corporations and no further analysis can be conducted.

In Chapter 6, an attempt to uniformly asses the Cypriot banks and Euro Area MFIs was taken place, by calculating the weighted average on deposits for both banking sectors (section 6.4.1, Table 6.6, page 167). The main reason of using a benchmark between the two banking sectors is because the analysis performed on the different sectors of the economy, lacked compatible data for comparative analysis. During my research I realised that the CCB does not keep compatible data with the ECB, since it does not take into account the maturity factor of loans and deposits. By comparing the weighed averages, in cases where no data was available, a fair approach was undertaken.

Furthermore and during my analysis for fulfilling the conditions to complete the DPS Project 5260 module, I found out that there is no availability of data regarding the maturity of the deposits for the Greek market as well.

Therefore in this part of the extended analysis, the use of weighted averages is eliminated due to lack of data.

This posts a question in which deposit rate to use for comparing the different sectors of the economy between the Greek and the Cypriot banks.

The deposit rate of the Cypriot banks concerning the household sector is extensively examined and analysed on Chapter 6. In my analysis in Chapter 6, I have used the weighted average deposit rate for the Cypriot

banks and the Euro Area MFIs. Considering the availability of data and the characteristics of the household sector (and also taking into account that during my previous analysis in Chapter 5), regarding the trends on the deposit time maturities, I am incorporating the Euro Area trend as it follows from my findings in Chapter 7. It was identified that longer term maturities in the Euro Area are gaining to shorter maturities. Since the Greek banking sector is operating in the Euro Area from 2001 and looking at Table 9.1 above, it appears to be aligned with the Euro Area MFIs, I will incorporate the 3 month deposit rate. Moreover, the 3 month deposit rate is positioned between the time maturities trends of the Cypriot banks and the Euro Area MFIs, as it is indicated in Chapter 5 (sections 5.4 and 5.6).

9.4 The Lending Rates:

Taking my analysis further, the next step is to find out what the lending rates are for the different sectors of the economy. The following data regarding the lending rates of the Greek banks was retrieved from the Bank of Greece and it is tabulated on the Table below:

Table 9.4 Lending Rates Between Greek and Cypriot Banks

	Cyprus Banking Sector			Greek Banking Sector		
Type of Loan	Rate (APRC -%)	MLF	Spread (in basis points)	Rate (%)	Euribor 12 mth	Spread (in basis points)
Housing loans	5,92	5	92	4,57	4,77	20
Consumer Credit	7,62	5	262	8,47	4,77	370
Non-financial corporations	6,74	5	174	5,32	4,77	55

sources:Cyprus and Greek Central Banks, 2009

From this Table it is obvious that the only loan type that the Greek banks are operating favourably to the Cypriot banks is the consumer credit. The Cypriot banks have an advantage on the housing loans and the loans to non-financial corporations. For these two types of loans the Cypriot banks have a favourable spread of 72 basis points (92-20=72 basis points) and 119 basis points (174-55=119 basis points) consecutively.

Following the analysis conducted on Chapter 6 regarding the comparison of the Cypriot banks to the Euro Area MFIs, it reminded that the Cypriot banks outperformed the Euro Area MFIs in the same type loans as well.

Moreover, for comparison reasons and following my analysis as conducted in Chapter 6, the indicating lending rates above will be used for comparing the different sectors of the Greek and Cypriot banks. As a reminder to the reader the lending rates of the Cypriot banks are obtained for the CCB, for the Euro Area MFIs are obtained from the ECB and for the Greek banks from the Bank of Greece. Section 6.5 in Chapter 6, page 173, discusses extensively the use of these lending rates, the spreads that exist between the Marginal Lending facility (for the Cypriot banks) and the spreads between the Euribor rates (for the Euro Area MFIs).

Comparing the findings on Table 6.9 and the Table above, it is clear that the Greek banks have similar spreads and rates compared to the Euro Area MFIs. The same was identified in the previous section for the deposit rates as well.

For simplicity reasons the following Table is constructed:

Table 9.5 Loan Rates and Spreads in Greece and in the Euro Area

Type of Loan	Greek Banking Sector			Euro Area Banking Sector		
	Rate (APRC -%)	Euribor 12 mth	Spread (in basis points)	Rate (%)	Euribor 12 mth	Spread (in basis points)
Housing loans	4,57	4,77	20	5,15	4,77	38
Consumer Credit	8,47	4,77	397	8,32	4,77	355
Non-financial corporations	5,32	4,77	55	5,23	4,77	46

sources: European and Greek Central Banks, 2009

The Table reveals that the Greek banks and the Euro Area MFIs have common characteristics. More specifically the consumer credit and non-financial corporation's lending rate are very close to each other and differ marginally between them. However, the housing loans appear to differ substantially, by 58 bps (5,15%-4,57% = 0,58%). This will require additional research analysis in an attempt to explain this gap that exists between the Greek banks and the Euro Area MFIs. This analysis will be presented in the housing loans section that follows.

9.5 The Household Sector:

The research project proceeds with the analysis on the Household sector. The Household sector is comprised of the housing loans and the consumer credit. According to the data sets as at 31/12/07 from the Bank

of Greece, the total loans of the household sector of the Greek market amounted to €91.156,4 million from a total of €183.722,2 loans of the Greek banks. The housing sector constitutes 49,61% of the total loans of the Greek banking sector the housing loans accounted at €63.613,10 million (34,62% to total loans) and the consumer credit accounted at €27.543,30 million (14,99% to total loans). These figures are indicated on the Table below:

Table 9.6 Total Loans of the Greek Household Sector

Total Loans of the Greek Household Sector (millions €)						
Total Loans	Household sector	% to total	Housing Loans	% to total	Consumer Credit	% to total
183.722	91.156	49,62%	63.613	34,62%	27.543	14,99%

source: Bank of Greece, 2009

As a reminder to the reader the Household sector for the Cypriot banks accounts to 43,40% of the total loans compared to 49,62% for the Greek banking sector as it is indicated above. More precisely and as a reminder to the reader, the following Table is tabulated as an extract of Table 7.2 on Chapter 7 page 220:

Table 9.7 Total Loans of the Cypriot Household Sector

Cypriot Banks – Sectors	Loans (€billion)	% to total Loans	Loan rate (%)
Household Sector	17,89	43,40%	7,22
Housing Loans	8,05	19,53%	5,92
Consumer Loans	3,16	7,66%	7,62

source: Central Bank of Cyprus 2008

Interestingly enough the level of the housing loans and the consumer credit compared to the Greek banking sector appears to have a considerable difference compared to the Cypriot banking sector.

An explanation to this might be the real estate tax that was imposed on January 1st 2006 bringing demand forward for housing loans, as it was identified from Price Waterhouse Coopers webpage (2005).   Another explanation might be that the Greek local population are actually moving up the "property ladder", meaning that they are not quite happy with what they have right now and are willing to trade up to a better/bigger house. They can do that, by actually mortgaging (financing) their new houses by using their existing houses as collateral.

Taking a look at the Euro Area MFIs, the level of the household sector loans is as follows:

Table 9.8 Total Loans of the Euro Area Household Sector

Euro Area - MFI Sectors	Loans (€trillion)	% to total Loans	Loan rate (%)
Households	4,81	39,80%	5,36
Housing Loans	3,43	28,41%	5,15
Consumer Loans	0,617	5,10%	8,32

source: ECB, 2008

Comparing and assessing the last three Tables is noted that the household sector is highly concentrated in Greece compared to Cyprus and the Euro Area.   However, for the case of the Cypriot banks the household sector remains underdeveloped compared to the Euro Area averages and the Greek market.   On the contrary, the lending rate of the

Greek and Euro Area MFIs is aligned with each other, while for the Cypriot banks exists a substantial difference. One of the recommendations that I have posted is to balance the loan mix of the housing loans by offering tailor made products or by shifting the repayment options to longer maturities.

9.5.1 Housing Loans:

Using the 3 month deposit rates for the Greek and Cypriot banks and tabulating the lending rates of the housing loans as indicated from the Cyprus and Greek Central banks, the spread differences on the specific loan type is identified on the Graph below:

Graph 9.1   Housing Loan Rate Spreads Between Cypriot and Greek Banks

	3 month deposit rate (bp)	Housing Loan Rate (bp)	Spread on Housing Loan Rate (bp)
■ Cyprus Banking Sector	357	592	235
■ Greek banks - Housing Loans	428	457	29

sources: Cyprus and Greek Central Banks, 2009

□ Cyprus Banking Sector   ■ Greek banks - Housing Loans
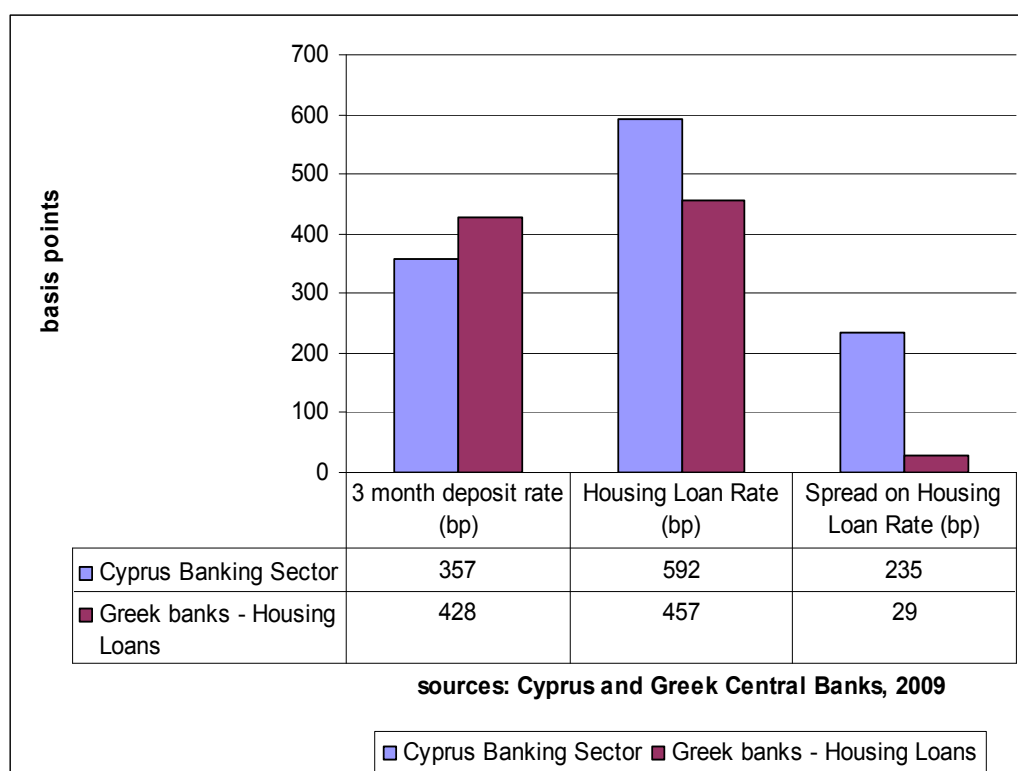
The household sector is more profitable for the Cypriot banks compared to their Greek rivals. This does not change my specific finding as indicated in Chapter 6, page 184. Interestingly enough though, there is an extensive difference in the spread between the Cypriot and the Greek banking sector (206 basis points). In Chapter 6 the spread difference between the Cypriot banks and the Euro Area MFIs stood at 41 bps in favour of the Cypriot banks. In that analysis though, I have used the weighted average deposit rate for the Cypriot Banks and the Euro Area MFIs. Using disaggregated data I find out that most probably further analysis is needed in order to explain the big spread that exists among Cypriot and Greek banks.

The Greek banks have a considerable lower housing loan rate compared to the Cypriot banks and the Euro Area MFIs as well (5,15% as indicated on Graph 6.6, page 183). Moreover, taking into account the 3 month deposit rate of the Euro Area MFIs (as indicated on Table 6.7, page 168) that stood at 2,57% it is also noted that the Greek banks are operating at substantially higher deposit rates compared to Cypriot banks and to Euro area MFIs as well.

It is apparent that with the use of more disaggregated data, I can achieve more robust results, my focus of analysis on the housing loan rate takes me to the point where I compare the tenure status of households in the Euro Area, Greece and Cyprus. The main reason for this is that the level of demand for housing loans is most probably different in the 3 areas of

investigation. Obtaining data (latest data refers to 2005) from the Eurostat
yearbook 2008 (Eurostat, 2008), the following Table is indicative of the
tenure status of the Euro Area households:

Table 9.9 Tenure Status of Households in the Euro Area

Tenure status of households, 2005				
	Owner	Tenant	Rented at reduced rate	Rent-free
EU-25	62,7	22,1	8,3	7,0
Spain	83,3	7,0	3,4	6,3
Slovenia	81,6	6,6	3,6	8,2
Ireland	77,7	8,8	12,2	1,3
Malta	75,0	2,5	18,2	4,3
Greece	73,2	17,8	2,5	6,5
Portugal	72,9	11,2	7,0	8,9
Italy	71,9	12,7	5,8	9,7
Luxembourg	69,4	21,7	4,8	4,1
Cyprus	68,3	12,7	1,1	17,9
Belgium	66,6	22,8	8,5	2,2
Finland	66,0	13,6	19,1	1,3
France	58,3	21,9	15,6	4,3
Netherlands	54,3	45,3	0,0	0,4
Austria	51,6	32,2	8,9	7,4
Germany	44,3	44,4	7,6	3,7

source: Eurostat, 2009

The above Table reveals that Greece has a high percentage of owner
tenure, higher than the EU 25 average, and higher than Cyprus. How this
owner tenure percentage compares with the actual housing loan rates for
each member state however? Although there seems to exist a negative
correlation of the high owner tenure in Greece compared to Cyprus and in
the Euro Area MFIs can a more precise conclusion be obtained by
comparing the housing loan rates of each member states? In Chapter 6,
in section 6.6.2, page 182, an attempt was made to find out what was the
effect of the inflation on the housing loan rates (see Graph 6.5, page 182).

On Graph 6.5 I have displayed the housing loan rate as at 31/12/07 for all the Euro Area member states.

Although I am not using the APRC, annual percentage rate charged, on the housing loans, combining the data from Graph 6.5 on page 182 and the data on Table 9.9 above, the Table below is indicating the percentage of owner tenure with the corresponding housing loan rate for each member state:

Table 9.10 Tenure Status vs Housing Loan Rate in the Euro Area

Tenure status of households VS Housing loan rate					
	Rates for house purchase (%)	Owner	Tenant	Rented at reduced rate	Rent-free
Euro Area	5,40	n/a	n/a	n/a	n/a
Spain	5,53	83,30	7,00	3,40	6,30
Slovenia	6,76	81,60	6,60	3,60	8,20
Ireland	5,12	77,70	8,80	12,20	1,30
Malta	n/a	75,00	2,50	18,20	4,30
Greece	4,98	73,20	17,80	2,50	6,50
Portugal	5,72	72,90	11,20	7,00	8,90
Italy	5,86	71,90	12,70	5,80	9,70
Luxembourg	n/a	69,40	21,70	4,80	4,10
Cyprus	5,65	68,30	12,70	1,10	17,90
Belgium	n/a	66,60	22,80	8,50	2,20
Finland	5,00	66,00	13,60	19,10	1,30
France	5,45	58,30	21,90	15,60	4,30
Netherlands	5,28	54,30	45,30	0,00	0,40
Austria	5,51	51,60	32,20	8,90	7,40
Germany	5,28	44,30	44,40	7,60	3,70

source: Eurostat, 2009

It is indicative from the Table above that Greece has the lowest housing rate amongst other Euro Area member states, and it enjoys a relatively higher owner tenure status from most of the Euro Area member states, that implies that most households already own a house. However,

member states with a higher owner tenure status than Greece (Spain, Slovenia, Ireland) outperform the Greek banks on the housing loan rates. Moreover, examining if the concentration of the banks is affecting the housing loan rates, investigating Graph 5.2 on Chapter 5 and page 132, it is identified that there seems to exist no correlation regarding this factor. What is relevant in this case is the risk that the banks or MFI institutions are willing to take based on their borrower's collateral. According to the ECB (ECB, 2006, p 22)

> The highest correlation between credit risk and MFI interest rates may be expected for loans to households for consumption and small loans (of up to €1,00 million) to non-financial corporations, since this type of loans are more risky (since they carry more collateral and the borrowers are more opaque).

Based on the above statement, the next step was to trace the default risk or the default percentage of the relevant loans to the Euro Area MFI's, the Greek and Cypriot banks. However, at this point the ECB is not breaking down the loan books of the Euro Area MFIs by the collateral amount or by the collateral type (ECB, 2006).

Thus, an attempt to provide solid explanation regarding the lower housing loan rates in relationship with the owner tenure percentage does not provide any conclusive results or findings.

Digging further into this analysis, the next attempt is to find out the level of the housing loans in terms of the GDP. Combining Tables 9.6, 9.7, 9.8 from this Chapter, and Table 4.8 on Chapter 4 on page 104, the following

data can be achieved regarding the level of housing loans, consumer credit and GDP for Cyprus, Greece and the Euro Area:

Table 9.11 EU, Greece and Cypriot Housing and Consumer Loans vs GDP

Member State	GDP (€mil)	Housing loans (€ mil)	Housing loans / GDP (%)	Consumer credit (€ mil)	Consumer credit / GDP (%)
Eurozone	8.722.829	3.400.000	38,98%	617.620	7,08%
Greece	270.296	63.613	23,53%	27.543	10,19%
Cyprus	15.596	8.005	51,33%	3.160	20,26%

Sources: European, Greek and Cypriot Central Banks, 2009

The Table above reveals that although the Greek banks appear overexposed in the housing loans in respect to the total loans of their corresponding banking sector, compared to the Euro Area and Cyprus, in terms of GDP are clearly falling behind. Therefore, the Greek banks in respect to the local GDP are actually underperforming compared to the Euro Area MFIs and the Cypriot banks.

9.5.2 Consumer Loans:

A major part of the household sector is the consumer credit, the consumer loans. Interestingly enough comparing to the total loans, the consumer credit accounts to 14,99% for the Greek banks, substantially higher compared to 7,66% for the Cypriot banks and 5,10% for the Euro area MFIs.

Following my analysis, as the housing loans, I will use the same deposit rates, the 3 month deposit rate.

Graph 9.2 Consumer Loan Spreads Between the Greek and Cypriot Banks

	3 month deposit rate	Consumer Credit Rate (bp)	Spread on Consumer Credit Loan Rate (bp)
☐ Cyprus Banking Sector	357	762	405
☐ Greek Banks - Consumer Credit	428	847	419

sources: Cyprus and European Central Bank, 2009

☐ Cyprus Banking Sector ☐ Greek Banks - Consumer Credit
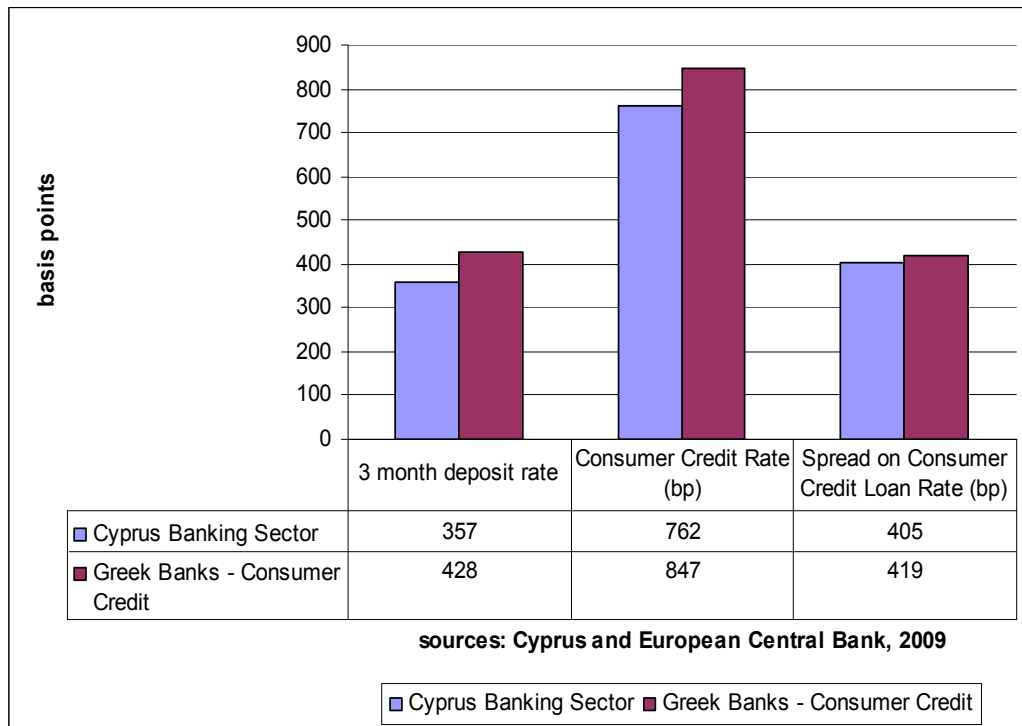
The Greek banks seem to perform better than the Cypriot banks by a marginal difference of 14 bps. The consumer credit rate however, is considerably higher than the Cypriot banks (by 85 bps) and by 15 bps (see Chapter 6, Graph 6.7, page 188) compared to the Euro Area MFIs. In Chapter 6 and 7 it was identified that the Cypriot banks are have higher percentages of their consumer loans relative to their total loans, compared to the Euro Area MFIs. However, the Greek banks appear to have the highest percentage of their consumer loans relative to the total loans (14.99% to total loans).

Although the Greek banks seem to be aligned with the consumer lending rate to the Euro Area MFIs, 8,47% and 8,32% respectively, the overall loan weight of the Greek banks to the consumer credit sector differs

substantially. The consumer credit sector in Greece constitutes almost 15,00% of the total loans, while for the Euro Area MFIs is at 5,10%. It can be deducted that the consumer credit sector in Greece, is totally different compared to Cyprus and in the Euro Area.

Following the analysis performed on the previous section regarding the housing loans, assessing the consumer loans in terms of the GDP, Table 9.10 was constructed. Based on the GDP, the consumer loans for the Euro Area MFIs account to 7,08%, for the Greek banks 10,19% and for the Cypriot banks 20,26% respectively. Interestingly enough, the same finding appears again as in the previous section. Compared to the GDP, rather than the total loans, the Greek banks appear closer to the Euro Area MFIs standard, compared to the Cypriot banks. Unfortunately, there is no data available for the debt servicing burden to disposable income from the Bank of Greece, therefore no further analysis can be conducted in relation to this matter. On the other hand and considering the time line of this project study, the Greek economy has been outperforming the Euro Area averages in terms of growth throughout 2004-2007. The economic growth created increases in household purchasing power that lead to further consumption. Moreover, in Greece as in Cyprus different consumer spending habits and preferences compared to the Euro Area are identified. Another issue that should also be under consideration is what and how the ECB is calculating the consumer loans. In my database I am concentrated only in the Euro Area MFIs and I am not considering the credit handed out to consumers from heavy industry organisations

(automakers, home appliances manufacturers) in the economies that have this production capacity and capability. In other words, automakers in more developed industrial member states can finance new car sales through their credit subsidiary companies, therefore bypassing the Euro Area MFIs. In both areas, Cyprus and Greece, there are no heavy industries to hand out any type of consumer credit, therefore it is expected to have numerical differences when comparing average values.

9.6 The Non-Financial Corporations Sector:

Examining the non-financial corporations sector I obtained again the data for my analysis from the Bank of Greece. The loans of the non-financial corporation for the Greek banks accounted for €89.755,10 million, 48,85% of the total loans, compared to 46,90% for the Cypriot banks and 36,37% for the Euro Area MFIs. Just looking at the exposure percentages of the non-financial corporations sector between the Greek and the Cypriot banks, it is noted that both banking sectors are very close to each other, but are deviating from the Euro Area average.

Using the 3-month deposit rate for both banking sectors and tabulating the lending rate for the non-financial corporations sector as indicated from the Greek and Cypriot Central Banks, the Graph below is presented:

Graph 9.3 NFC Loan Spreads Between the Greek and Cypriot Banks

	3 month deposit rate	NFC Loan Rate (bp)	Spread on NFC Loan Rate (bp)
▪ Cyprus Banking Sector - NFC sector	357	674	317
▪ Greek banks - NFC sector	428	532	104

sources: *Cyprus and Greek Central Banks, 2009*

☐ Cyprus Banking Sector - NFC sector ▪ Greek banks - NFC sector
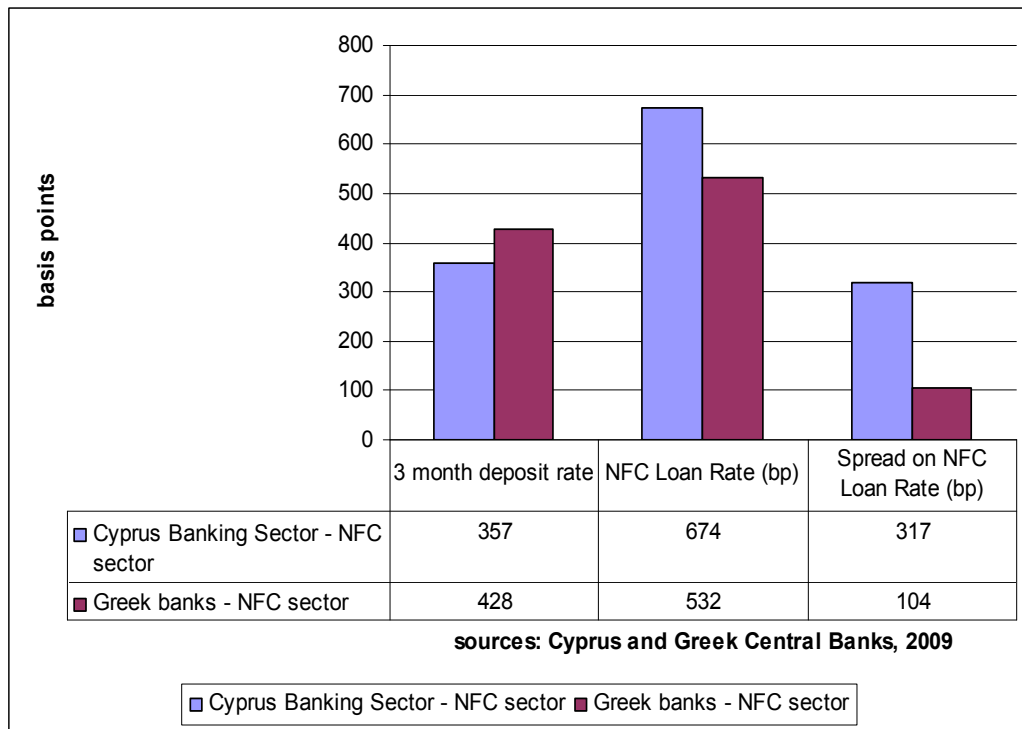
Just a reminder to the reader, the Euro Area MFIs non-financial corporation's loan rate was at 5,23% (Chapter 6, Graph 6.8, and page 195) that is very close to the Greek banks loan rate for the specific sector. There is a marginal difference of 9 bps, and it appears again that the Greek banks are aligned with the Euro Area MFIs. The 3 month deposit rate however of the Greek banks is at a disproportionate level compared to the Euro Area MFIs, which is at 2,57% (Chapter 6, Table 6.7, and page 168). The Greek banks are operating at a higher deposit rate than the Cypriot banks by 71 bps and 171 bps than the Greek banks. Overall, the Cypriot banks appear to outperform the Greek banks on the spread of the Non-financial corporations sector by 213 bps, while in the analysis in Chapter 6, they outperform the Euro Area MFIs by 131 bps.

As in Table 9.10 where the household loans where examined in respect to the GDP, Table 9.11 below gives the corresponding picture for the non financial corporation's loans in the Euro Area, Cyprus and in Greece:

Table 9.12 EU, Greece and Cypriot NFC Loans vs GDP

Member State	GDP (€mil)	NFC loans (€ mil)	NFC loans / GDP (%)
Eurozone	8.722.829	4.390.000	50,33%
Greece	270.296	89.755	33,21%
Cyprus	15.596	19.329	123,94%

Sources: European, Greek and Cypriot Central Banks, 2009

Unfortunately the above Table is not as helpful as Table 9.10 in the previous section. The non financial corporation's loan sector constitutes to more that 50,00% to the Euro Area GDP, while for the Greek banks the sector stands at 33,21%. The corresponding ratio for the Cypriot banks by the end of 2007 was at 123,94%.

Considering the GDP growth to the Greek banks loan expansion the following Table (similar to Tables as in Chapter 5) show the expansion of the Greek banks compared to Greece's GDP:

Table 9.13 Greek Banks' Total Loan Growth to GDP

Year	GDP (€ mil)	GDP growth (% pa)	Total Loans (€ mil)	Total loans growth (% pa)	Total loans / GDP (%)
2004	185.851,40	4,90%	117.201,70	15,83%	63,06%
2005	197.645,00	2,90%	136.981,10	16,87%	69,31%
2006	213.206,70	4,50%	156.896,40	14,53%	73,59%
2007	228.180,30	4,00%	183.722,20	17,09%	80,52%

source: Bank of Greece

Comparing with Table 5.6 on Chapter 5 and page 146, it is concluded that the Greek banks total loan growth is higher over the 4 year period under investigation, compared to the GDP growth.

Moreover looking at the corresponding Euro Area GDP growth in respect to the total loans growth, as is revealed on Table 5.8 on Chapter 5 and page 150, it is noted that the Euro Area MFI's total loans to GDP was at a 1,39 ratio, compared to 0,80 ratio as it is calculated on Table 9.12 before. This leaves a lot of room for loan advancements for the Greek banks.

Assessing the deposits growth of the Greek banks compared to the GDP the following Table is presented:

Table 9.14 Greek Banks Total Deposits to GDP

	2004	2005	2006	2007
GDP (€billions)	185,85	197,64	213,20	228,18
GDP % growth	4,90%	2,90%	4,50%	4,00%
Total deposits (€billions)	128,42	156,85	173,37	197,23
Deposits % growth	10,94%	22,14%	10,52%	13,76%
Total deposits to GDP (ratio)	69,10%	79,36%	81,32%	86,44%

Source: Greek Central Bank, 2009

The deposit's growth of the Greek banks is posting exceptional gains over the period of 2004 to 2007. By the end of 2007, total deposits to GDP where at 86,44%. However, Table 5.5 on Chapter 5 and page 143 shows that the Euro Area MFIs total deposits to GDP ratio is at 114,00% for the end of 2007. It appears that the Greek banks have a lot of ground to cover comparing to the Euro Area MFIs ratio. On the other hand the Cypriot banks, as indicated on Table 5.4 on Chapter 5 and page 136, have

a modest expansion of their deposit base of around 5,00% but they have an exceptionally high ratio of deposits to GDP, 337,00%. In the specific Chapter an extensive analysis of the deposits growth in Cyprus is presented. From this analysis however, it is identified that the Greek banks are posting higher lending growth relative to their deposits growth. Cypriot banks experienced high lending and deposit growth, but contrary to the Greek banks, their deposit growth exceeded the lending growth.

Proceeding with the assessment of the Greek banking system the ratio of the loans to deposits is examined as follows:

Table 9.15 Greek Banks Loans to Deposits Ratio (%)

	2004	2005	2006	2007
Loans (bill €)	117,20	136,98	156,89	183,72
Loans growth (%)	15,83%	16,87%	14,53%	17,09%
Deposits (bill €)	128,42	156,85	173,37	197,23
Deposits growth (%)	10,94%	22,14%	10,52%	13,76%
Loans to Deposits (%)	91,26%	87,33%	90,49%	93,15%

Source: Greek Central Bank, 2009

The above Table indicates that by the end of 2007 the Greek bank's amount of outstanding loans was at 93,15% of the total deposits. The Euro Area MFI's loans / deposits at the end of 2007 stood at 121,36%, as indicated on Table 9.16 later on. Again as it is identified in the previous Table, the Greek banks have some distance to cover compared to the 114,00% posted by the Euro Area MFIs. The Table below is indicative of the situation for the Cypriot banks at that time period:

Table 9.16 Cypriot Banks Loans to Deposits (%)

	2004	2005	2006	2007
Loans (bill €)	24,77	28,06	31,41	41,02
Deposits (bill €)	30,06	38,07	43,10	52,51
Loans to Deposits (%)	82,40%	73,71%	72,88%	78,12%

source: Cyprus Central Bank, 2009

The Table above indicates that the Cypriot banks are operating at higher liquidity ratios compared to the Greek banks. One explanation to this is the liquidity regulation (Directive on the Prudential Liquidity) of the Cyprus Central Bank (CCB) regarding the foreign deposits held by the Cypriot banks (Cyprus Central Bank, 2008).   The CCB requires that the liquidity ratio to on foreign deposits to be at 70,00%. This means that 70,00% of foreign deposits are accounted as liquid assets while the rest of the 20,00% of foreign deposits can be loaned. Obviously, the CCB considers foreign deposits held by the Cypriot banks as "hot money" and is only allowing strict utilisation of funding from the Cypriot banks. Taking into account Graph 5.5 on Chapter 5 and page 139, it is shown that the non-resident deposits for the Cypriot banks by the end pf 2007, stood at €17,37 billion (£10,15 billion Cyprus pounds). This means that the foreign deposits for the Cypriot banks account to more than 33,00% of their total deposits. Considering the low rate of deposits' growth as indicated on Table 5.4, Chapter 5 page 136, it seems that the Cypriot's bank growth is depended on the foreign deposits growth. Although, the Cypriot banks are experiencing a positive trend over the past 7 years on deposit growth, as indicated on Graph 5.5, it was accompanied by Cyprus's favourable economic environment.

On the other hand, excluding all foreign deposits, the Cypriot bank's loans to deposits ratio is estimated at 116,73% for the end of 2007. Even if the foreign loans are excluded, worth €7,02 billion, the loans to deposits ratio for the Cypriot banks is calculated at 96,76%.

Concerning the loans to deposits ratio of the Euro Area MFIs the following Table is indicative:

Table 9.17 Euro Area MFIs Loans to Deposits (%)

	2004	2005	2006	2007
Loans (trl €)	9,01	9,89	10,85	12,1
Deposits (trl €)	7,53	8,25	8,98	9,97
Loans to Deposits (%)	119,65%	119,88%	120,82%	121,36%

source: Cyprus Central Bank, 2009

The above Table reveals that the Euro Area MFIs are very efficient in mobilising their deposits to loans since the specific loans to deposits ratio stood at 121,36% by the end of 2007. Although the Cypriot banks are under strict regulations from the CCB regarding foreign deposits, they appear to outperform the Greek banks in using their deposit base to expand their loan books.

A very important factor that is essential to the deposits growth of the banking sector is the household gross savings. This factor was not taken into account in my initial research project because there is no data available for Cyprus. However, looking at more disaggregate data and comparing with the Greek banks, the household savings are identified for the Euro Area, and Greece for the end of 2007. Looking at the "savings

as a percentage of the gross national disposable income" by the end of 2007, Greece stood at 8,50% and the Euro Area at 22,60% (Eurostat, 2008). Greece not only posts a substantial difference from the Euro Area media but it has the lowest percentage savings ratio compared to all other Euro Area member states.

This particular information on the Greek's savings habits puts the Greek bank's further expansion under question, since any additional growth will depend on further deposits growth. On the long run, the Greek banks are faced with deteriorating consumer saving habits that will put their expansion palns on the stress.

9.7 Greek vs Cypriot Banks. Annual Report 2007:

A possible method to retrieve the necessary data for the banking sector for reasons of comparison, is to compile all the annual reports of the banks that constitute the banking sector of a country. However this gathering method of information provides more problems than solutions. Although all major Euro Area financial institutions use IAS (International Accounting Standards), one of the major problems is that the reporting method of presenting financial information differs substantially. The issues associated with the presentation of the financial data are that management does not want to actually disclose any information that will reveal any strengths or weaknesses to the competition. Moreover, management assesses risk and expansion plans based on each bank's specific vision, culture and future growth. This fact alone is enough to distort accounting

and financial data as are presented in risk averse or on a more risk appetite approach.

This analysis follows the use of disaggregate data for the purposes of extracting specific results in comparing the banking sectors between two different member states, instead of the Euro Area as a whole.   In this Chapter I will compare the Greek banks to the Cypriot banks using their 2007 annual reports.

The Table below summarises the 2007 highlights of the above banks (as were extracted from their 2007 annual accounts) to a number of ratios for comparative analysis:

Table 9.18 Greek and Cypriot Banks Financial Ratios

	Greek Banks					Cypriot banks		
	NBG	Eurobank	Alpha	Piraeus	ATE	BOC	Marfin	Hellenic
Loans to deposits	0,90x	1,51x	1,58x	1,37x	0,81x	0,75x	0,85x	0,64x
NIM	4,33%	3,57%	3,40%	2,76%	3,15%	2,85%	2,94%	3,21%
EPS (€)	3,41	1,55	2,08	1,89	0,27	0,86	0,71	0,46
PE (as at 31/12/07)	10x	12x	10,5x	11,5x	9,6x	10,6x	7,9x	6,2x
Cost income ratio %	50,80	48,10	44,80	49,00	65,00	44,00	50,00	48,90
Book value per share (€)	13,60	8,10	8,26	9,37	1,61	3,47	4,26	1,80
ROA	1,95%	1,33	1,63%	1,61%	1,05%	1,71%	2,14%	1,91%
Avg. staff costs (€)	43.740	37.347	41.159	34.142	41.082	45.126	105.321	56.634
Gross NPLs/gross loans	4,19%	2,40%	3,70%	2,26%	7,10%	3,83%	5,00%	7,90%

source: 2007 annual reports of the above banks

Considering the fact that the Greek and the Cypriot Banking sector are highly concentrated, I have tabulated the five major Greek banks (National Bank of Greece 2007, Eurobank EFG 2007, Alpha Bank 2007, Bank of Piraeus 2007 and Agricultural bank of Greece 2007) to the three major

Cypriot banks (Bank of Cyprus 2007, Marfin Popular Bank 2007, Hellenic Bank 2007). The five Greek banks as mentioned above control over 63,00% of the deposits and 70,00% of the lending market in Greece, while the three Cypriot banks control over 60,00% of the deposits and 55,00% of the lending market in Cyprus.

As it was mentioned above, on the loans to deposits section, it is indicative that the Greek banks are utilising their deposits in a more efficient manner than the Cypriot banks. Since this issue has been extensively discussed in the previous section I will carry on with the analysis looking at the NIM (Net Interest Margin).

The NIM is the difference of the interest income generated (loans) and the amount paid out (deposits). The NIM of the Greek banks is clearly higher compared to the Cypriot banks. This means that the Greek bank's have favourable spreads in deposits and loans. However, this is something that was not identified when the analysis on the housing loans and the non-financial corporations was performed in the previous sections. The only sector that the Greek banks were outperforming the Cypriot banks (by a marginal fraction) was the consumer credit sector. Higher NIM for the Greek banks (and following the analysis performed on section 9.2 on this Chapter) means that they can lend at higher rates and pay deposits at lower rates. Digging deeper into the annual reports of the Greek banks it is further identified that:

The NBG (National Bank of Greece) has already expanded its operations in Turkey. Total loan exposure in Turkey accounted to 29,00% by the end of 2007. Taken out from the financial statements that 30,00% of NBG's earnings are generated from Turkey, it is concluded that the specific bank maintains high margins in Turkey.

As for the other group of Greek banks (Eurobank, Alpha Bank, Bank of Piraeus, and ATE - Agricultural Bank of Greece) it is identified that a considerable amount of their operations is generated from their expansion not only to the South Eastern Europe, SEE, but also to Central Eastern Europe, CEE. In particular, Eurobank has significant presence in Poland.

It is clear that this group of Greek banks, by the end of 2007, had an advantage of generating high NIM yields through their expansion to the SEE and to CEE. Looking in detail at the annual reports it is identified that the Greek banks are also looking to grow further in the countries that have operations already. Expansion to the region appears vital to their growth sustainability of income and profit.

In an effort to consolidate the Greek banks operation in the region, and provide a clearer picture of their expansion, the following Table is presented (For presentation purposes, L stands for loans, D for deposits and Br/s for branches):

Table 9.19 Loans, Deposits and Branches of Greek Banks by Country

Country	NBG			Eurobank			Alpha			Piraeus			ATE		
	L	D	Br/s	L	D	Br/s	L	D	Br/s	L	D	Br/s	L	D	Br/s
CEE	0%	0%	0%	4%	2%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SEE	11%	6%	39%	14%	13%	43%	10%	8%	45%	15%	7%	36%	0%	0%	3%
CIS	0%	0%	0%	1%	0%	6%	0%	0%	0%	0%	3%	13%	0%	0%	0%
Turkey	18%	12%	25%	2%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Greece	70%	80%	34%	80%	82%	30%	83%	80%	51%	79%	82%	46%	100%	100%	97%
Cyprus	1%	1%	1%	0%	1%	0%	8%	12%	4%	1%	1%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%	6%	0%	6%	0%

Sources: Annual reports of the above banks 2007

As it is indicated from the above Table the Greek banks are expanding their operation outside Greece. Just as in the case of Cypriot banks, were they expanded their operations in the Greek market 10 years ago, the Greek banks are positioned in mostly in Turkey, SEE, CIS and Poland. It is worth mentioning that apart the SEE were it seems that all banks have considerable operations, in the other countries/regions a more individualistic approach is identified, like the case of Eurobank and its operations in Poland.

Having identified that the Greek banks are operating, and more specifically are generating income from foreign markets explains the significantly lower average staff cost compared to the Cypriot banks. With the exception of Cyprus all the other countries/regions are well below the GDP per capita compared to the Euro Area average. The Greek banks seemed to have diversified their operations to economies that are identified with lower costs compared to the Greek domestic market.

Another interesting point is the gross NPL/gross loans as identified by the end of 2007. Although the Greek banks have considerable exposure in

new and underdeveloped markets, their loan book quality reflects constructively to the annual accounts as indicated above. However, management uses different approaches to assessing their loan quality. As the credit crunch crisis accelerated throughout 2008, NPL in underdeveloped markets surged, resulting in higher NPL. Moreover, the Greek banks (except NBG) that operate heavily in the SEE showed a liquidity shortfall. NBG experienced this liquidity shortfall on its Turkish operations. The effects of the credit crisis for the Cypriot banks will be discussed extensively on Chapter 10 that follows.

Examining the ROA (return on Assets) it is shown that the Cypriot banks are doing a better job from their Greek counterparts (except in the case of NBG). ROA is the indicator of assessing management's ability to generate earnings. ROA equals the Net Income / Total Assets. Thus, higher ROA means better utilisation of income to assets. In this case Cypriot banks appear to be better in converting investments into profit.

Last but not least, it is identified that the Cypriot banks have low reliance on wholesale funding. Wholesale funding is used in addition to the demand deposits held by financial institutions and it includes mainly repurchase agreements, public funds (state and local) and foreign deposits. Since wholesale funding is a common practice for most Euro Area MFIs, during the banking crisis, most of them were faced with liquidity drainages that resulted from insufficient wholesale funding levels. This has affected negatively their liquidity ratios that consequently alarmed

policymakers that were faced with the collapse of the financial monetary system. The strong deposit base of the Cypriot banks did not require additional funding sources like wholesale funding. However, the excess demand for liquidity has driven deposit rates to higher levels, which as a consequence have led to high cost of deposits. At that crucial moment, policy makers stepped in with the specific focus of providing excess liquidity in the market and lowering the deposit rates. An extensive analysis of the deposit rates is presented in the next Chapter following my commentary on the recommendations made prior to the banking crisis.

9.8 Reflections:

One of the main considerations when Cyprus joined the Euro Area was the broad public anticipation that the local economic and banking environment would adjust to the norm of the corresponding Euro Area environment as well. Right before Cyprus joined the Euro Area, the CCB aligned its interest rates to the corresponding rates of the ECB and it was expected that the interest rate environment and the economic environment as it was repeated by many public figures and officials would stabilise around the Euro Area norm. However, the interest rate anomalies that the banking crisis has created (as are thoroughly explained in the next Chapter) has proved them wrong. The issue of the interest rate disequilibrium that exists in Cyprus is an ongoing matter, thus making my research project unique in its own merit to my stakeholders, but also to all interest parties that are looking for answers to this interest rate disequilibrium. Also, the research project can be used for comparison

reasons and further analysis from other financial institutions that will join the Euro Area in the future.

Furthermore, assessing the general economic characteristics of the Cypriot Economy to the Euro Area and examining the level of the interest rates and the NIM of the Cypriot banks using averages was a determinant factor for my stakeholders. Although the Bank of Cyprus group has operations in Cyprus, Greece, UK, Romania, Ukraine, Russia and Australia its main concern are its operations in Cyprus and the Euro Area. The use of averages provided a Euro Area benchmarking for the whole Cypriot banking sector. The banking crisis that followed the time frame of my research analysis, in concurrence with my evidence report is essential to my stakeholders for aligning their pricing strategy in the new economic situation. It is already communicated to me that the approached used on the homogeneity of Euro zone banking operations has raised a number of factors that are under consideration (risk exposure, disposable income, alternative financing sources and asset/liability structure). Furthermore, the suggestions posted on the evidence report like the liquidity ratios and the banking structure/consolidation are already under development.

9.9 Findings:

Based on my analysis on this Chapter the following conclusions and findings are outlined:

- The number of the Greek banks is constant, contrary to the major consolidation trend that exists for the Cypriot banking sector.

Although in Cyprus the consolidation is solely attributed to the co-ops, in the Greek banking sector the co-ops are limited in numbers and generally the Greek banks do not appear to be in any consolidation mood.

- The interest rate environment of the Greek banks is aligned to the Euribor rates of the Euro Area MFIs interbank offer rates.

- The Greek banking sector not only appears more concentrated than the Cypriot banking sector, but the 5 largest Greek banking institutions are more concentrated than their corresponding Cypriot banks. This also means that the Cypriot banking sector is more competitive compared to the Greek banking sector. However, both sectors are well above the concentration levels of the EU average, indicating that their levels of competition are limited.

- Greek banks have one of the lowest number of branches as per 10.000 citizens in the Euro Area, contrary to the Cypriot banks that have one of the highest number of branches as per 10.000 citizens.

- The deposit spreads are favourable for the Cypriot banks. However, longer term deposits appear aligned between the Cyprus and Greece.

- Greek banks seem to outperform Cypriot banks in respect to the consumer credit lending rate. On the other hand Cypriot banks have the advantage on housing loan rate and the NFC loan rate. The Greek banks had the lowest housing loan rate as at 2007, compared to all the EU member states.

- The concentration of the household sector for the Greek banks is higher than the Cypriot banks, 49,62% and 43,40% respectively. The housing loans constitute 34,62% for the Greek banks and 19,53% for the Cypriot banks. Consumer credit represents almost 15,00% for the Greek banks while for the Cypriot banks is at 7,66%.

- Greece has higher owner tenure status compared to Cyprus There seems to exist no correlation between the tenure status, the housing loan rate and the concentration of the Greek and Cypriot banking sector. The analysis performed on this Chapter suggests that the Greeks are financing their existing property, in order to move up the "property ladder".

- The ratio of the housing loans to GDP is lower for the Greek banks compared to the Cypriot banks. The same is valid for the consumer credit. The Greek banks in respect to the local GDP are actually underperforming compared to the Euro Area MFIs and the Cypriot banks. The Cypriot banks seem to lack behind the Euro Area MFIs and Greek banks on the housing loans as a percentage on total loans. In relation their corresponding GDP however, Cypriot banks appear overexposed compared to the Greek banks.

- The ratio of the NFC loans to GDP is lower for the Greek banks compared to the Cypriot banks.

- Non performing loans are higher for the Cypriot banks compared to the Greek banks.

- The deposit growth and the deposit to GDP growth are higher than the sole GDP growth for both the Greek and Cypriot banks. Cypriot

banks are posting a higher deposit growth and a higher deposit to GDP growth than Greek banks.

- Loans are appearing to grow faster in Greece than in Cyprus. Excluding the co-ops for the case of Cypriot banks, the opposite statement is valid for the Cypriot banks. In Cyprus, deposits are growing faster than loans.

- There are strict restrictions from the CCB for the use of foreign deposits for funding purposes. This ruling adds costs and limits expansion for the Cypriot banks.

- Greece has one of the lowest household savings ratio to GDP in the Euro Area, adding concern on the Greek bank's further expansion.

- Greek banks have a better loans to deposits ratio than the Cypriot banks, suggesting that the Greek banks are utilising more efficient their deposits base.

- The NIM for the Greek banks appears better than the Cypriot banks, mainly because of their operations outside the Greek market.

- The Greek banks are generating a considerable amount of business from abroad (Turkey, CIS, SEE, CEE). The Cypriot banks are generating revenues from the Greek market.

- The ROA of Cypriot banks is higher than the Greek banks. Cypriot banks appear to be better in converting investments into profit.

- Greek banks have lower staff costs than the Cypriot banks.

9.10 Synthesis of Chapter 9:

From the analysis performed on this Chapter a number of findings are outlined. Although there are obvious similarities to the analysis performed on the research project, the detail level and the depth of the analysis on this Chapter has produced exclusive findings. For instance, the owner tenure status for the Euro Area was put under the microscope in order to examine the correlation of the housing loan rate not only in Greece but within the Euro Area.

The Greek banking sector is more concentrated than the Cypriot banking sector, and there are no signs of consolidation for the Greek banks, unlike the current consolidating trend of the Cypriot banking sector which is mainly attributed to the Coops.

Another interesting aspect of comparing the Greek and Cypriot banks was the actual tabulation of their financial ratios. This revealed further detail on the reasons (expansion to SEE, Turkey, CEE, CIS) regarding the higher NIM, the lower NPL and lower staff costs for the Greek banks. Moreover, taking into account the corresponding GDP for each member state, a different perspective regarding the loans and deposits for the Greek and the Cypriot banks is revealed. Although the Greek banks are shown to be overexposed on the consumer loans, comparing to the GDP they post the worst performance, compared to the Cypriot banks and the Euro Area average. Nevertheless and despite the fact that the Cypriot banks' deposits are expanding faster than the Greek banks, the Greek banks

seem to utilise their deposit base more efficiently than the Cypriot banks, based on the loans to deposits ratio.

The analysis performed with this level of detail is crucial for comparing and assessing the banking sector of a member state. My research project is focusing on the loans and deposits of the banking sectors in the Euro Area and Cyprus. Moreover, crucial institutional sectors for the banking industry are compared. All this analysis is performed on the basis of adapting a strategy for operating in the Euro Area environment. In the case that the comparison is performed for a specific member state, more detail is necessary for the proper assessment and comparison. This level of detail however was obtained through data that was disaggregated. Nevertheless the results obtained from the analysis of the Greek banking sector, were more precise and detailed to the vast analysis of the Euro Area MFIs.

Furthermore, the Cypriot banks have expanded and are still expanding their operations in Greece, so the level of the analysis performed on this Chapter proves valuable with particular findings regarding the Greek banking sector which is essentially the competition.

In the next Chapter, I am assessing my actual recommendations relative to the credit crisis that erupted in 2008.

CHAPTER 10

THE BANKING CRISIS Vs RECOMMENDATIONS

10.1 Introduction:

In this Chapter I am commending on my recommendations after the banking crisis began.

As it is widely admitted, retrospectively, the first banking crisis signs surfaced, right after the US subprime crisis in August 2007. Although at the time the crisis looked controlled, manageable and did not raise any thunderous alarm bells, the crisis accelerated throughout 2008. Economic activity slowed down in the face of credit shortages from the financial institutions. Policymaker's and Central bank's efforts to sustain the liquidity and capital into the financial system, accompanied by terrible losses from "toxic" and "infected" assets, raised serious concerns regarding the solvency and funding of major financial institutions. The collapse of the Lehman Brothers (one of the largest investment firms in the US) acted as an accelerator catalyst for the corrosion of the monetary system. A series of urgent and drastic measures to intervene and rescue the existing financial system and its companies (financial and credit institutions, insurance companies, brokerage firms) provoked a steep increase in perceived counter party risk. Counterparties were seeking quality which resulted in low yields on government bonds, dissolving wholesale funding which with its turn percolated through the rest of the global financial system. That resulted in a massive sell off of liquid assets.

Making matters worse, the credit lines of hedge funds were sharply and swiftly eliminated. High yield corporate bond spreads widened instantly, the flow of working capital was interrupted, banks raised immediately their lending standards, and equity prices plunged. The above refer to the circumstances that occurred in US and Europe.

Emerging markets, that theoretically have limited exposure on the US subprime market and the events that followed, the situation was also severe.

A general mood of risk aversion in conjunction with a number of unpleasant factors (especially the damages in European Banks) lead to mounting pressure on all financial fronts: IPO's and new issues were brought to a standstill, bond spreads rocketed, equity markets plummeted and exchange markets dropped. The measures taken from policy makers and Central banks caused by the accelerating provision of guarantees in more mature and developed markets, actually pulled back global funds. This resulted in an increasing concern of the national economic prospects in emerging markets, especially economies that relied heavily on external financing. Consequently, this resulted in the exposure of the internal deficiencies and vulnerabilities of many emerging economies, like the currency mismatches, insufficient risk management and over expansion of bank credit growth.

Steep price declines in equity markets in combination with deteriorating and deflating housing market bubbles led to a tremendous loss of household wealth. Furthermore, the unprecedented chain of events was magnified by the total failure of business and consumer confidence, regarding the economic outlook and mounting insecurity about policy responses and fire-fighting efforts.

Cyprus, as a member state in the Euro Area was also damaged from the banking crisis. The effects from the deceleration and decline of the Euro Area member states growth and prosperity, affected swiftly the Cypriot economy, specifically in the sectors of tourism and real estate. Despite the limited to non existent exposure on wholesale funding, the banking sector was consequently hurt also, not only through the local economy but also from the Greek economy. Although the period of investigation and research was up to the end of 2007, in the following sections of this Chapter I will assess my recommendations in respect to the current banking crisis.

10.2 Assessment of Recommendations:

The recommendations recorded on Chapter 7 are based on the implementation of a Cypriot bank's strategy for operating within the Euro Area environment. Moreover, the recommendations are taking into account the fact that the Cypriot banks should be able to compete with the Euro Area MFIs, and adjust their pricing policy to the Euro Area averages. In the previous Chapter 9, it is identified that examining a single member

state, rather than the whole Euro Area, produces more precise and tangible findings. These findings in relation to the research project, can produce more appropriate results that can lead to new meaningful recommendations rather than the whole Euro Area.

In this section I will put each one of my recommendations to the test taking into account the current banking crisis situation.

10.2.1 Strong Liquidity Ratios:

Recommendation: It is recommended to Cypriot banks to disengage their deposit growth dependence, and seek alternative ways of financing their operations. It is further recommended to be more actively involved in the interbank market and/or to proceed with securitization through covered bonds.

Comment: The primary reason that the Cypriot banks survived the credit crisis, is because their funding needs were met through their vast deposit base. As mentioned in the previous section the search for quality in order to eliminate the counterparty risk has led to liquidity drainages in the interbank market. Although at the time, the recommendation made sense, at the escalation of the credit crisis it was more or less abandoned. Communicating this information with my internal stakeholder, Dr Chris Patsalides, he pointed out that one of the major reasons for this abandonment was the quality counterparty risks that existed (and still exist) at the time.

On the other hand, I feel very proud to inform the reader that the need for additional funds, has actually led, in May 2009, to the securitization program from the Bank of Cyprus.

Moreover, it is also confirmed that during period of liquidity drainage specific actions like the securitization can provide the extra liquidity for the Bank's funding purposes.

10.2.2 Interest Rate Issues:

As it was identified, the Cypriot banks were negligent enough to include in their client agreement clauses regarding the transition from the previous economic environment to the Euro Area. Although this "negligence" has been perceived as a calculated risk, CCB's rule right before accession to the Euro Area (Chapter 6, section 6.3, page 159), has cost the Cypriot banks over €136,00 million in interest received.

Discussing over this issue with my stakeholders, it was revealed to me that all contracts and agreements in the areas of operation that are outside the Euro Area environment, were revised. Special clauses were included regarding the legal interpretation of the "base rate" definition and the effected changes upon accession or adoption of the Euro or the Euribor rates.

As it mentioned on section 9.1, underdeveloped markets were faced with increasing pressure on their exchange markets. This provided the need

for tailor made products that were pegged to the Euribor rate and the Euro currency. Even though this has also been on of my recommendations, market events and conditions has produced the necessity of providing special tailor made products to areas of operation outside the Euro Area (specifically Russia and Romania).

10.2.3 Deposits:

Cypriot banks should monitor banking developments, trends and market conditions closely. The banking crisis has produced unprecedented interest rate anomalies. While policy makers were trying to revive the financial system through capital injections and consecutive decreases of interest rates, the vital need for funding requirements has spurred an interest rate hike from Euro Area MFIs. More specifically, the Table below records monthly the AAR (annual average rate) on deposits from the Euro Area MFIs:

Table 10.1 Deposits Rates of Euro Area MFIs During Bank Crisis

Year	Month	ECB deposit facility (%)	3m Euribor (%)	Overnight dep-households (%)	1 year deposits-Households (%)	Overnight dep NFC (%)	1year deposits NFC (%)
2009	7	0,25	0,893	0,52	1,86	0,57	0,81
	6	0,25	1,099	0,56	1,86	0,66	1,04
	5	0,25	1,269	0,61	1,89	0,76	1,08
	4	0,25	1,365	0,66	2,01	0,80	1,15
	3	0,50	1,51	0,80	2,24	0,96	1,36
	2	1,00	1,825	0,90	2,62	1,12	1,61
	1	1,00	2,086	1,02	3,27	1,28	2,25
2008	12	2,00	2,892	1,16	3,75	1,63	2,87
	11	2,75	3,853	1,29	4,26	1,98	3,53
	10	2,75	4,76	1,34	4,77	2,20	4,26
	9	3,25	5,277	1,32	4,65	2,20	4,52
	8	3,25	4,963	1,29	4,59	2,17	4,46
	7	3,25	4,968	1,26	4,61	2,15	4,46
	6	3,00	4,947	1,24	4,43	2,07	4,28
	5	3,00	4,864	1,23	4,32	2,08	4,26
	4	3,00	4,857	1,22	4,28	2,06	4,27
	3	3,00	4,727	1,22	4,14	2,03	4,20
	2	3,00	4,384	1,21	4,10	2,02	4,07
	1	3,00	4,374	1,20	4,19	2,02	4,13
2007	12	3,00	4,684	1,18	4,28	1,96	4,26
	11	3,00	4,810	1,18	4,08	2,02	4,11
	10	3,00	4,603	1,17	4,11	1,97	4,07
	9	3,00	4,792	1,16	4,07	1,91	4,14
	8	3,00	4,735	1,14	3,93	1,89	4,08
	7	3,00	4,260	1,10	3,86	1,82	4,01
	6	3,00	4,175	1,08	3,78	1,78	3,94
	5	2,75	4,122	1,06	3,62	1,78	3,75
	4	2,75	4,017	1,04	3,59	1,75	3,74
	3	2,75	3,924	1,02	3,51	1,71	3,67
	2	2,75	3,848	1,00	3,37	1,64	3,49
	1	2,75	3,782	0,98	3,33	1,61	3,49

Sources: ECB, 2009

The data set records the rates regarding new business, and it extends up to 1 year deposit maturity for the Household and the NFC sectors. Moreover, since I am using the 3m euribor rate to the 1 year deposit rate for the NFC, examining the yield curve rate of the 1 year 3 – month residual maturity does not appear to post any data mismatches or misinterpretations.

Looking at the ECB deposit facility column it is shown that the ECB is on a steady trend of decreasing interest rates. Specifically, the effective deposit facility from the ECB is at its lowest point ever.

Particular interest is pointed also on the 3 month Euribor, the interbank market rate column. During the second half of 2008, where the banking crisis was escalating the 3 month Euribor rate was hovering around 5,00%, indicating the urgency and desperation of liquidity from Euro Area MFIs. As ECB's efforts are under way, it is identified that the 3 month Euribor rate is detained within a normal range, regarding its historical behavior.

However, this detainment of the Euribor rates to the ECB's deposit facility is not yet to come for the Euro Area MFI's actual banking operations. Looking at the household deposits column, it is shown that the deposit rate remains higher than the Euribor rate. This indicates that the Euro Area MFIs are still looking to expand their deposit base by offering "attractive" deposit rates. A very significant point is that the interest rate trends between the households and the NFCs have reversed in the process of the banking crisis. It appears that the instability and contraction that the banking crisis created has hindered NFC's sustained operations. On top of that, many NFCs joined the various "rescue plans" offered from member states to tackle the banking crisis and the economic contraction. On the other hand, it seems that Euro Area MFIs are targeting households to increase their deposit base. Comparing the 1 year deposit rate between

the households and the NFCs, it is identified that households are enjoying higher rates than the NFCs.

Nevertheless, the above Table indicates that the interest rate environment in the Euro Area is at low levels and is in the relieving process of smoothing the anomalies that occurred during 2008.

Unfortunately the above Table is not indicative for the Cypriot banks. The urgency for deposits has spurred an interest rate war exclusively from foreign operators in the Cypriot banking sector that resulted in a serious disequilibrium of the interest rate environment in Cyprus and in the Euro Area. Table 10,2 below is indicative of the situation in Cyprus for the same period as illustrated on Table 10.1 above:

Table 10.2 Deposit Rates of Cypriot Banks During Bank Crisis

Year	Month	ECB deposit facility (%)	3m Euribor (%)	Overnight dep-households (%)	1 year deposits-Households (%)	Overnight dep NFC (%)	1year deposits NFC (%)
2009	7	0,25	0,893	1,25	4,06	0,69	2,80
	6	0,25	1,099	1,29	4,06	0,74	2,71
	5	0,25	1,269	1,29	4,08	0,74	2,48
	4	0,25	1,365	1,36	4,27	0,73	2,62
	3	0,50	1,510	1,44	4,66	0,80	2,91
	2	1,00	1,825	1,56	5,36	0,88	3,78
	1	1,00	2,086	1,60	6,14	0,90	5,04
2008	12	2,00	2,892	1,58	6,02	0,86	4,75
	11	2,75	3,853	1,54	5,74	0,90	4,63
	10	2,75	4,760	1,60	5,72	0,98	4,93
	9	3,25	5,277	1,66	5,60	1,01	4,97
	8	3,25	4,963	1,63	5,47	0,95	4,73
	7	3,25	4,968	1,60	5,36	0,94	5,02
	6	3,00	4,947	1,57	5,11	1,08	4,78
	5	3,00	4,864	1,59	4,73	1,11	4,82
	4	3,00	4,857	1,55	4,56	1,11	4,56
	3	3,00	4,727	1,65	4,32	1,32	4,31
	2	3,00	4,384	1,57	4,17	1,15	3,85
	1	3,00	4,374	1,59	4,13	1,28	3,99
2007	12	3,00	4,684	1,87	4,36	1,80	4,38
	11	3,00	4,810	1,89	4,32	1,52	4,38

Sources: CCB, 2009

There is a clear mismatch between the level of the interest rates for the Cypriot banks compared to the Euro Area MFIs. Although it is identified from the research project (Chapter 6) that the CCB aligned its interest rates with the ECB, right before Cyprus's accession to the Euro Area, the actual rates of the Cypriot banks are still disoriented from the Euro Area MFIs.

As it is identified on Chapter 5, section 5.4.1 and page 140, Cypriot banks are growing through their deposit base expansion and are dependent on that, therefore increased competition for deposits has spurred a deposit interest rate war. Although there are similar patterns of interest rate

movement as identified on Table 10.1 before, the interest rates in Cyprus are not aligned with the broad Euro Area interest rates.

The whole issue of the interest rates in Cyprus, is troubling local policy makers that are currently in a effort to issue covered bonds at discount local market rates to the local banks, in exchange of lower rates from the Cypriot banks. Even though this action is under the umbrella of government intervention to tackle the current crisis, considering the first recommendation regarding the securitasition program Cypriot banks should be swift in action regarding their policy by closely monitoring external and internal developments.

10.2.4 Housing Loans:

The recommendation on the housing loans was for the Cypriot banks to increase the level of the housing loans in respect to the total household loans. Furthermore, the time analysis of the housing loans in Cyprus pointed out that Cypriot banks should also try to refinance existing housing loans to longer repayment maturities.

Comment: The banking crisis was set off by the property bubble in the United States. Although, property prices in Cyprus were off the roof in the period 2003-2007, locally no bubble has burst yet. On the contrary, what really happened is a steep decline of property transactions and a moderate sell off at the seaside areas, coastline properties mainly, by foreign owners. Unfortunately there is no official and verified data

available regarding the price index of property values in Cyprus. However, in one of the latest studies from the University of Cyprus Pashiardes et al, refers to the price increases per square meter for a detached house during the period 2003-2007 as high as 40,00% (Pashiardes et al, 2009). It also points out that certain factors like an increase in population, materials price increases, cost of labor, increases in the GDP per capita, loan increases are contributing positively to price hikes of the property market. On the contrary factors like increases in equity yields and increased number of foreign labor are contributing negatively to property prices (Pashiardes et al, 2009).

Even if my stakeholders wanted to adopt my recommendation, market conditions would not allow it. Deteriorating consumer and business confidence in combination with the uncertainty factor of the economic outlook, has brought the property market on a standstill.

My stakeholders, after the securitization program that restored excess liquidity for funding, launched (and are still launching) a campaign targeting housing loans. The conditions on the loans have two major characteristics: 1) long repayment periods (up to 40 years) and 2) the loan is pegged to the 6 month Euribor rate.

It is indeed very optimistic to have a new housing loan product out in the market after a period of uncertainty, and anxiety. Although the specific product does not refer to first time buyers, it was very relieving to find out

that at least a part of my recommendation was taken into account: loan expansion on housing loans and longer repayment options. Nevertheless, the banking crisis is not over yet, and I would rather be cautious on the subject of the housing loans. After all, in Cyprus we have not experienced any steep price declines like the rest of the Euro Area and the United States.

10.2.5 Consumer Credit:

For the particular sub-sector, it was recommended to either moderate the level of consumer loans and/or proceed with consumer rate hikes.

Comment: The banking crisis reconfirmed my concerns regarding the level of the consumer loans and their associated rate. Taking into account that the banking crisis has affected all the spectrum of economic activity, consumers were also very careful about their consumer habits and rather vigilant with their expenses. A high unemployment rate in conjunction with bleak economic outlook reduces consumer spending and credit.

On the other hand, as the crisis is easing off, liquidity issues are returning to moderate levels, in a relatively low interest rate environment it is not a bad idea to re-examine the expansion of the consumer credit. Contrary to that though, a negative factor are the operations in the Greek market that constitute a big part of the consumer credit. Specifically, consumer loans account to 16,00% of the total loans handed in the Greek market.

Following the analysis on Chapter 9, the specific percentage is aligned with the Greek banks.

10.2.6 Non Financial Corporations (NFC) Sector:

The recommendation on the NFC sector was to follow the restructuring phase that the Cypriot economy is going through and avoid, or even reduce their exposure on the tourist industry, the agriculture and mining industry sector and also the manufacturing industry.

Moreover, since the NFC sector appears sensitive to interest rate fluctuations a recommendation was to offer more flexible refinancing options when interest rates fluctuate.

Comment: The crisis has affected the Cypriot economy that is expected to show marginal economic growth this year. As a consequence of this, and due to the government intervention to help struggling sectors and most specifically the tourism sector, the specific recommendation is timely wrong. In these hard times, it would prove unpopular and provoking to even try to follow this strategy. However, the banking crisis, as any crisis, has the cruel advantage of cleansing non-productive sectors of the economy. I strongly believe that It is of utmost importance for my stakeholders, to follow the sectoral restructure of the Cypriot economy and improve the quality of their loan book.

However, after the securitisation program, and the recent stability of the banking sector, I still believe that my stakeholders could offer similar products as the housing loans mentioned before. I do not believe that is a bad idea to offer Euribor pegged products to NFC. Except from the fact that these type of products are already segmented in the market but are not available for the NFC sector, competitive advantage issues should be also considered. Finally, my stakeholders can design specific products for relatively new sectors of the economy (like health and education industry). Like that you have the advantage on attracting the new structural sectors as clients, since now you are offering specific Euribor rate products.

10.2.7 Government Sector:

The Government sector is underutilised from the Cypriot banks. The recommendation was to offer tailor made products selectively to the Cyprus government sector. Moreover, in periods of excess liquidity, this approach should also be followed within the scope of the Euro Area government sector and offer these products to other member states' governments and municipalities as well.

Comment: The banking crisis has driven most of the government in the world to step in and actually intervene in the financial system to provide excess liquidity, protect industries, protect specific business (like banks) and curb high unemployment levels. At this point the government sector has acted as a fire fighter and provided a number of measures to ease the effects of the economic contraction. Right now, fiscal policies should be

oriented to bring down deficits and put public debt on a moderate level as well. Fiscal policies are actually putting the Euro Area economies on the test right now. Considering the Maastricht criteria as discussed extensively on Chapter 4, a number of Euro Area member states are at the moment struggling to contain them and avoid the "surveillance" list of the European commission.

Nevertheless, discussing this recommendation with my internal stakeholder, Based on the sole fact that the Cypriot banks are dependent on deposits for their growth, these alternative sources of financing within the Euro Area should be explored sooner or later.

10.3 General Comment:

Although the banking crisis has literally squashed financial institutions across the globe, the Bank of Cyprus group and all the Cypriot banks so far managed to survive intact.

One of the primary reasons of not recording losses and high provisions is because Cypriot banks did not have any toxic assets or high risk products on their portfolios and they had limited or no exposure on wholesale funding. Moreover, as it is identified from Chapter 4, the Cypriot economy is affected during regional or global crisis, but with a time lag. This can be explained because of the tourist and real estate sectors (the "cash" producing sectors of the economy) that are not affected right away but after 6 to 9 months.

These factors alone were decisive in avoiding further troubles, like the liquidity drainage that caused extreme fluctuations on the interbank interest rates. This is mainly attributed to the diachronically strict and firm legal framework (supervision) of the CCB. However, CCB's attitude has been criticized on the research project a couple of times. The first instance was CCB's decision to peg the rate on the main refinancing operations to the loans than commenced prior to the adoption of the euro currency. The second instance is the liquidity requirements of foreign deposits that affect the Cypriot banks loans to deposit ratio.

This tight frame from the CCB has ensured strong liquidity ratios for the Cypriot banks, sometimes characterised as "unfavourable" in respect to utilising their deposits to loans compared to the Euro Area MFIs and the Greek banks. Nevertheless, during the extended analysis performed on Chapter 9, between the Cypriot banks and the Greek banks, it is identified that Cypriot banks are overall compared favourably to their Greek counterparts.

Although Cypriot bank's balance sheets are not suffering from "infected" assets and have very limited exposure to wholesale funding (as described on the previous Chapter) the global economic contraction has affected the economies of their operation. Cypriot economy is expected to have zero growth for this year, while Euro Area economies are expected to contract. The banking crisis has resulted in a bad economic outlook that is affecting

the Cypriot banks. Right now, Cypriot banks are experiencing a decrease in their loans growth, an increase in NPL and reductions on their NIM.

The research project has concentrated on the pricing policy of the Cypriot banks upon their accession to the Euro Area. On top of that I had the chance to compare the Cypriot banking sector to the Greek banking sector using disaggregated data that produced precise findings that can lead to specific recommendations. As the research project progressed, market events led to an unprecedented global banking crisis that has caused a global economic contraction. Reflecting on the work produced, it is unavoidable for the Cypriot banks to carry on with their operations as their assessment at 31/12/07.

The recent crisis has shown that banks need to manage risk more efficiently, have adequate capital base, and manage effectively their exposure on high leveraged products. The research report may well be the base of further investigation of other banks that are not operating in the Euro Area and are in the process of joining in the Euro Area. Moreover, financial institutions that are looking to expand in other Euro Area member states can assess the situation within the member state of their interest and through the financial statements of the financial institutions that are operating within the specific member state. Furthermore, a number of factors such as risk exposure, disposable income, alternative financing sources, average firm size, banking market concentration, asset and liability structure have to be taken under

consideration since they differ from one member state to the other. As it was deducted from the research project, in order to asses these factors the introduction of disaggregated data can produce more meaningful results for the stakeholders.

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Bank of Greece
http://www.bankofgreece.gr/Pages/default.aspx

Price Waterhouse Coopers
http://www.pwc.com/gr/en/index.jhtml

National Bank of Greece
http://www.nbg.gr/

Alpha Bank
http://www.alpha.gr/page/

Piraeus Bank
http://www.piraeusbank.gr/
Eurobank
http://www.eurobank.gr/online/home/

Agricultural Bank of Greece
http://www.atebank.gr/atebank

Bank of Cyprus
http://www.bankofcyprus.com/Main/Default.aspx

Marfin Popular Bank
http://www.laiki.com/web/w3cy.nsf/ContentDocsCountries/Greek

Hellenic Bank
http://www.hellenicbank.com/HB/content/gr/index.jsp?lang=gr

ANNEX SECTION

A1. Money Supply Categories:

Within each economy, the money supply refers to the total quantity of notes, coins and also loans and credit as other liquid assets as well. The term money supply is important for economists since decisions in monetary policy affect inflation and interest rates. Therefore decisions regarding interest rates from Central banks are affecting the quantity of the money supply and the associated demand (from consumers) and supply (from banking and credit institutions). Money supply is broken down to different categories (M0, M1,M2.M3) depending on the ease of liquidity that is associated with each financial variable. Each consecutive category contains the previous category in respect to the quantity of money. Thus, M3 contains all other categories (M0, M1 and M2) and it includes the entire supply of money.

So in general terms, M0 refers to liquid financial variables such as cash, M1 is associated with demand accounts and cash, M2 includes M1 and time deposits and fund accounts and M3 contains all other 3 categories and other larger financial variables.

The following description of the different money supply categories is extracted from Friedman (2004, p 19-20):

> M0 (M-zero) is the most liquid measure of the money supply. It only includes cash or assets that could quickly be converted into currency.

This measure is known as narrow money because it is the smallest measure of the money supply.

M1 is a category of the money supply that includes all physical money such as coins and currency; it also includes demand deposits, which are checking accounts, and Negotiable Order of Withdrawal (NOW) Accounts. This is used as a measurement for economists trying to quantify the amount of money in circulation. The M1 is a very liquid measure of the money supply, as it contains cash and assets that can quickly be converted to currency.

M2 is a category within the money supply that includes M1 in addition to all time-related deposits, savings deposits, and non-institutional money-market funds. M2 is a broader classification of money than M1. Economists use M2 when looking to quantify the amount of money in circulation and trying to explain different economic monetary conditions.

M3 is a category of the money supply that includes M2 as well as all large time deposits, institutional money-market funds, short-term repurchase agreements, along with other larger liquid assets. This is the broadest measure of money; it is used by economists to estimate the entire supply of money within an economy.

A2. Cypriot Cooperative Societies:

Brief Comment:

Credit Cooperatives specialize in mortgage lending and small retail loans. These loans are said to be fully collateralized but reliable data on their non-performing loans and recovery ratios are not available. Credit cooperatives face a lenient tax and regulatory regime in comparison with commercial banks. The fact that credit cooperatives do not come under the supervisory authority of the Central Bank of Cyprus creates considerable risk to the health of the financial system.

A uniform provisioning policy is not possible at present. The "Cooperative Societies and Development Authority" currently supervises credit cooperatives. Even though the supervisory authority must liaise with the Central Bank it remains unclear where "lender of the last resort" responsibilities lie. In addition, many of the credit cooperatives are appearing undercapitalized.

Prudential supervision in the cooperative sector remains a contested issue. The Central Bank and the commercial banks favour supervision of all credit institutions to be consolidated into a single authority. The credit cooperative sector maintains that consolidation is not necessary provided there is adequate coordination between supervisory bodies.

The Co-operative Central Bank dates from 1937 and its main purpose was to easily facilitate banking services in the agricultural community. More on the subject can be found on:

http://www.coopbank.com.cy/old_site/genikes_plirofories.htm

A.3 Description of a Bank's Assets and Liabilities:

Further to the pricing issue discussed above, the allocation of a bank's resources and liabilities is crucial for the sustainability of operations, and is the subject of a bank's strategy for profit perseverance in the long term. In this section, I am identifying and discussing the asset and liabilities types that comprise a bank's balance sheet.

<u>Assets:</u> The assets of a bank are considered its revenue generating items. According to Koch (1988, p 101-106) bank assets fall into four categories and are as follows:

1. Cash and due from Banks. These consist of vault cash, deposits held at Central Banks, deposits held at other institutions and cash items in the process of collection. Vault cash is coin and currency that the bank holds to meet customer withdraws. Deposits held at the Central Banks or other banks are demanded balances used to meet legal reserve requirements, assist in check clearing and wire transfers. The amount of required reserve deposits is set by regulation as a fraction of qualifying bank deposit liabilities. Balances are held at other financial institutions, called corresponded banks, primarily to purchase services. The amount is determined by the volume and cost of services provided such that income from investing the deposits at least covers the cost of services provided by the correspondent bank. The largest component of cash assets, cash items in the process of collection, represents checks written against other institutions and present to the bank for payment for which credit has not been given. To verify that actual balances support each check, the bank delays credit until the check clears or a reasonable time elapses. The volume of net deferred credit is commonly called float.

2. Investment securities. These consist of assets held to earn interest and help meet liquidity needs. Banks typically own a large amount of short term securities that can easily be sold to obtain cash, but pay less interest than that available on longer-term securities. These short-term investments include time deposits due from other banks, securities purchased under agreement to resell (repurchase agreements or repos). They have maturities ranging from overnight to 1 year and carry returns that vary quickly with changes in money market conditions. They are extremely liquid as they can easily be sold at a price close to that initially paid by the bank. Longer term investment securities consist of bonds that generate taxable or tax-exempt interest. Banks also purchase mortgage-backed securities, commercial paper and small amounts of foreign and corporate bonds. Most of these carry fixed-rate interest payments, with maturities up to 20 years. Many large banks also operate as security dealers that maintain an inventory of securities for resale and underwrite

municipal issues. The inventory is comprised mainly of Treasury obligations, which are listed as trading account securities on the balance sheet. The bank earns interest on this inventory but operates to make a profit on the difference between the purchase and sale price of the securities. It subsequently bears the risk that the market value of its inventory might decrease.

3. Loans. They are the commercial banks' major asset and generate the greatest amount of income. They also exhibit the highest default risk and are relatively illiquid. A bank negotiates loan terms with each borrower that vary with the use of proceeds, source of repayment and type of collateral. Maturities range from call loans payable on demand to residential mortgages amortized over 30 years. The interest rate may be fixed over the life of the loan or vary with changes in market interest rates. Similarly, the loan principal may be repaid periodically or as a lump sum. For the purposes of my thesis, I am using the standard ECB categorisation of loans that the MFI's are offering. Moreover I am choosing the ECB's categorisation for purposes of comparing with the Cyprus commercial banks. Specifically, the project study is looking at the following loan categories: Loans to non-financial corporations with maturity of over 5 years, bank overdrafts to non-financial corporations, household lending for house purchase (over 5 years maturity), household bank overdrafts, and consumer credit.

4. Other assets. These are residual assets of relatively small magnitudes, including the depreciated value of bank premises and equipment, interest receivable, prepaid expenses, other real estate owned and customer's liability to the bank under acceptances. An asset is listed separately when it becomes significantly large.

Bank Liabilities and Stockholder's equity. Bank funding sources are classified according to the type of debt instrument and equity component. The characteristics of various debt instruments differ in terms of check-writing capabilities, interest paid, maturity, whether they carry insurance, and whether they can be traded in the secondary market. Specifically and for comparison reasons, I am looking at the following types of deposits:

1. Demand deposits. Accounts from which deposited funds can be withdrawn at any time without any notice to the depository institution.

2. Savings deposits. Accounts held at a bank or other financial institution that provides principal security and a modest interest rate. Depending on the specific type of savings account, the account holder may not be able to write checks from the account (without incurring extra fees or expenses) and the account is likely to have a limited number of free transfers/transactions. Savings account funds are considered one of the most liquid investments outside of demand accounts and cash.

3. Time deposit. A savings account (or Certificate of Deposit) held for a fixed-term with the understanding that the depositor can only withdraw by giving written notice.

A.4 Factors Affecting the Lending Rates:

It is mentioned in various points of the project study that most of the issues that arise from the project are subject to further research. The different factors outlined in this section are no exception to this. However, as mentioned in Chapter 2 in my literature review, most of these factors are shaped according to the different characteristics of each economic environment, in our case for each different member state. A vivid example is the oligopoly situation that existed in Cyprus in 2003, as described in section 5.3.1 in the previous Chapter.

Cost of deposits and capital (Interbank market):

The basic role of banks is to intervene, to draw funds from depositors and to issue loans to investors. Consequently, the loans interest rates should cover the deposit interest rates. In the case the banks can draw further capital through the issue of bonds in the capital markets and use these funds for further credit expansion, then the level of interest loans should reflect the weighted average cost of capital.

<u>Interbank market:</u> According to Shapiro (1982, p 34)

> Most currency transactions are channelled through the worldwide interbank market, the wholesale market in which major banks trade with one another. This market is normally referred as the foreign exchange market. In the spot market, currencies are traded for immediate delivery, which is actually within two business days after the transaction has been concluded.

The trading of currencies is performed through a network of banks and it excludes retail investors. For the reason that banks transact with each other on a short term basis, in order to manage their short term liquidity requirements, the interest charged is the interbank market rate.

Provisions for doubtful debts:

The lending interest rate – as it is mentioned so far – covers the cost of funding of banks, under the circumstance that none of the lenders will not default on its obligation to pay its loan (no default assumption). Based on long term experience and internal statistics, the banks are in a position to calculate the percentage of loans that will default for each period. These expected losses are an additional cost for the banks, which is reflected in the cost of deposits and capital from the interbank market.

At a theoretical level, the provision for doubtful debts depends on the probability of default, the loss given default and the outstanding amount/principal. The expected losses can be calculated through statistical models such as credit scoring models or credit value at risk models or through accounting methods such as special and general provisions as a percentage of the total loan book.

Cost of funds:

Beyond the provisions that the bank can use to cover part of its expected losses, the banks are obliged to hold an amount of funds for coverage purposes, in case they face unanticipated losses over and above the expected losses. The amount of these funds is determined from the level of the loan book risk and from the desirable credit rating that a bank wishes to hold. The return that the shareholders are expecting on invested funds is also a part of the cost that aggravates the lending interest rates.

In cases a Bank has issued hybrid capital of low reassurance, then the spread that burdens the lending rates is set from the Weighted Cost of Capital (WACC).

One of the most accepted methods of estimating the cost of capital is the dividend discount, Gordon Growth Model. According to the model, the cost of capital is equal to the dividend yield plus the future expected dividend growth.

Operational Costs:

An important factor that shapes the total cost of a Bank is the operational cost that burdens the cost of lending under the pattern of an additional margin rate.

Market Structure:

Regarding all of the above technical factors, it is possible that the banking (market) structure of each country (for instance more or less concentrated or competitive) affects the bank's possibility of setting the lending cost. A common statistical measure of the level of concentration of a sector of the

economy is the Herfindahl Index, which essentially is a means of comparing the size of corporations relevant to the total size of the sector. For the purposes of the project study, the Herfindahl index is discussed and explained in Chapter 5, in order to asses the concentration of the Euro Area MFIs and Cypriot banks.

A.5 The Inflation Effect on the Lending Rates:

In this section, an analysis of the inflation factor on the lending rates is performed. Although this type of analysis is the subject of further research, I am deliberately presenting this section in the household, and more specifically the housing loans sector, since their maturities are taking longer than any other asset class. Because of that the inflation factor is always taken into account since inflationary pressures affect negatively the real lending rates. The inflation is an incalculable factor that should also be accounted for, since it directly affects the level of interest rates and real interest rates, which each industry is operating.

Although the interbank euribor rates are common to all the MFIs, in the euro area, the inflation in the corresponding states differs significantly. This factor has important effects not only in the operational cost of the MFIs but also to the real return of a loan.

First, the MFI must pay for salaries, rents, other operational and running expenses and taxes. These costs are proportionate to the inflation. In

countries with high inflation the total cost of the MFIs is increased disproportionate to inflation change.

Second, MFIs give out loans that are paid in the future. The real (meaning the deflated) value of a payment that will collect in the future is comparably lower to member states with high inflation.

In Chapter 2, I referred extensively to the literature regarding the subject of inflation and the dispersion of the lending rates, specifically the housing loans rate in the Euro area. Taking into consideration the Euro Area inflation and the average housing rate, Euro Area MFIs' are concerned of what the real value of their loans are compared to theses averages.

In order to elaborate further on my thinking let's take for an example the case of Greece compared to the Euro area. I am referring to Greece, since the three largest banks in Cyprus already have operations there, the environment was considered inflationary compared to the euro area (3,00% for 2007 compared to 2,10% for the euro area) and since the bulk of the literature review is concerned with the mortgage rates.

To grasp the importance of this issue, we must answer the following question:

How much €100,00 is worth in X years when the inflation is "running" at 3,00% as in the case of Greece or at 2,10% as is in the case of the euro area?

The Euro area average housing rate is at 5,40% and in Greece is at 4,98%.

The real housing rate for the Euro area is at 3,30% (5,40%-2,10%) and for Greece is at 1,98% (4,98%-3,00%). This means that for a €100,00 at year one the real value will be €97,94 for the Euro Area and €97,09 for Greece, a difference of €0,85 or 0,86%. The question now is at what rate a Greek bank should charge its housing rate to meet the Euro area average, considering the different level of inflation between the two areas?

In order to have a real value of €97,94 (at year 1) a Greek bank should charge 41bp more, the housing rate should have been at 5,40%. At that level the housing rate should have compensated for the inflation gap between Greece and the Euro Area. In essence the Greek consumers / clients have a benefit of 42bp compared to the Euro area consumers, despite the high inflation.

A comparative Table of the differences that exist in the Euro Area is as follows:

Table A.1 Inflation effect to housing loans and real housing rates

Member State		Inflation (%)	Housing rates (%)	Real Housing Rates (%)	Loan (€)	Real Value (€)	Discounted Value (€)	difference in Housing rates (%)
Euro area		2,10	5,40	3,30	100,00	97,94	94,81	0,00%
1	Belgium	1,80	4,93	3,13	100,00	98,23	95,25	0,46%
2	Germany	2,30	5,28	2,98	100,00	97,75	94,92	0,11%
3	Ireland	2,90	5,12	2,22	100,00	97,18	95,07	0,27%
4	Greece	3,00	4,98	1,98	100,00	97,09	95,20	0,41%
5	Spain	2,80	5,53	2,73	100,00	97,28	94,69	-0,13%
6	France	1,60	5,45	3,85	100,00	98,43	94,78	-0,04%
7	Italy	2,00	5,86	3,86	100,00	98,04	94,40	-0,44%
8	Cyprus	2,20	5,98	3,78	100,00	97,85	94,28	-0,56%
9	Luxembourg	2,70	4,96	2,26	100,00	97,37	95,22	0,43%
10	Netherlands	1,60	5,28	3,68	100,00	98,43	94,93	0,12%
11	Austria	2,20	5,51	3,31	100,00	97,85	94,71	-0,11%
12	Portugal	2,40	5,72	3,32	100,00	97,66	94,52	-0,31%
13	Slovenia	3,80	6,76	2,96	100,00	96,34	93,57	-1,31%
14	Finland	1,60	5,00	3,40	100,00	98,43	95,19	0,39%

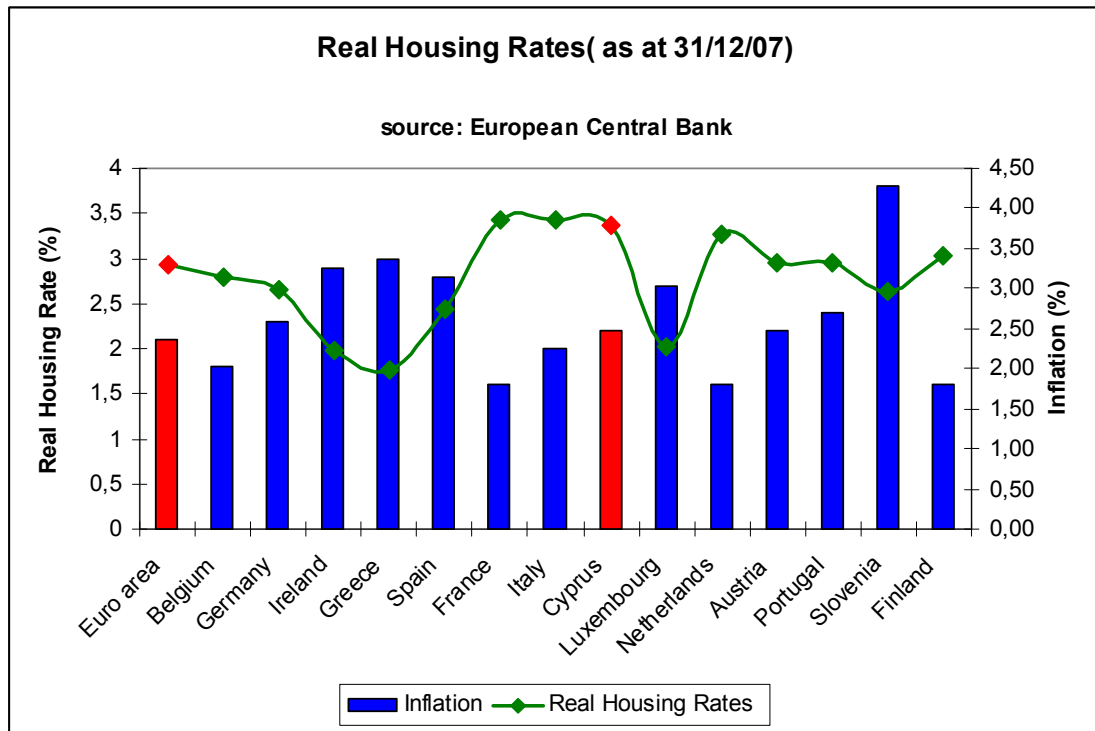Source: European Central Bank and Eurostat (2008)

The following Table describes visually the housing rate situation in the

Euro area as at 31/12/2007:

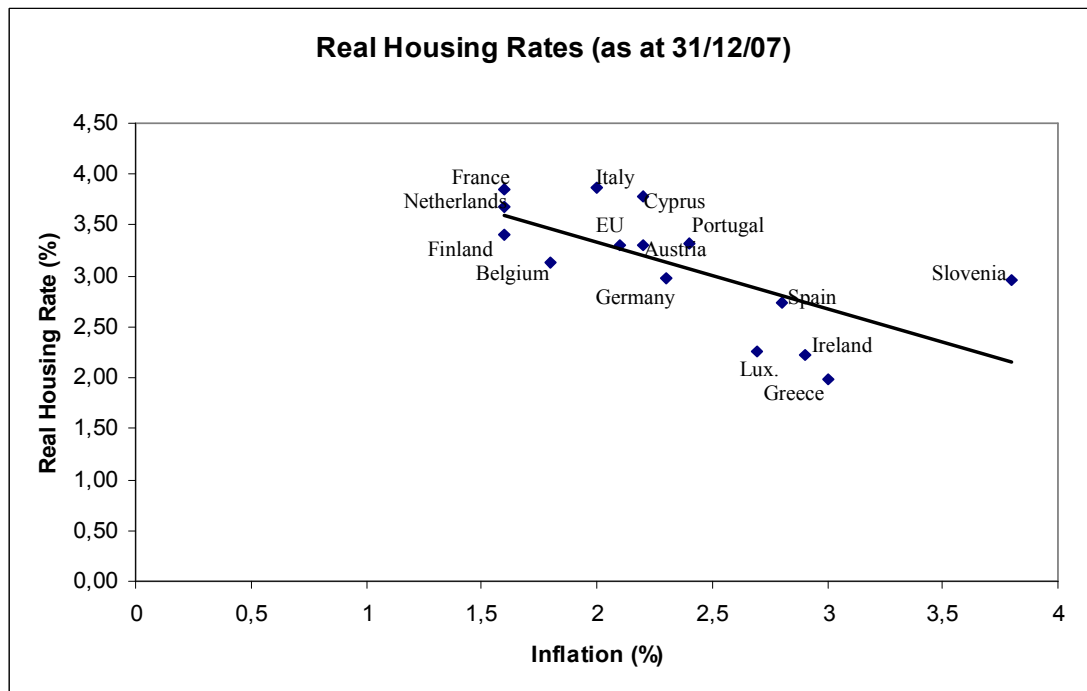Graph A.2 The Euro Area Housing Rates and Inflation
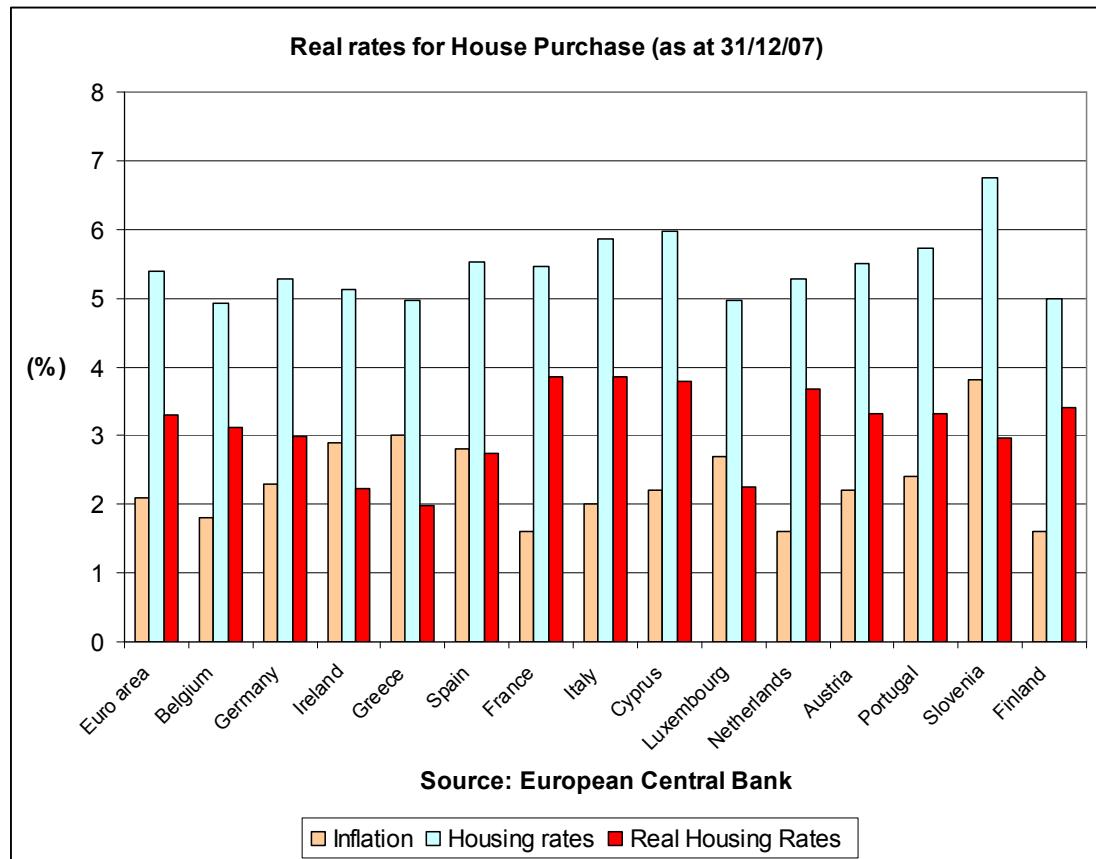
In the Table above the real housing rate for house purchase is noted

related to the inflation. Member states with high inflation tend to have

lower real rates for house purchase such as Luxembourg (2,27%), Ireland

(2,22%), Spain (2,73%) and Greece (1,98%). Although Slovenia is

posting the higher inflation and housing rate, is also posting a high real

rate for house purchase (2,96%).

Graph A.3 Real Housing Rates in the Euro Area

Real Housing Rates(as at 31/12/07)

source: European Central Bank

Graph 6.9 Real Housing Rates to Inflation

Real Housing Rates (as at 31/12/07)

Source: European Central Bank (2008)

The line represents the negative relation between the real housing rates and inflation in the euro area countries. The straight line with the negative slope reveals the level that every member's housing rates should be related to the level of inflation while the dots reveal the real housing rates for each member.

Following the analysis on the housing loans, the consumer credit and personal loans – a major part of the household sector - are next in line.