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"Profitability of 4 Greek Systemic Banks during the EURO era"

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Abstract

This thesis attempts to investigate the efficiency of the strategies of recapitalization on stabilizing of the operational performance of the four systemic banks in Greece. In addition, an attempt was made on evaluating the impact of such strategies on several financial indicators of those banks.

The analysis focuses on the following indicators; deposits, loans, equity, return on equity, return on assets and non performing loans. This study uses the quantitative research method in order to provide a descriptive analysis of the above mentioned indicators. Furthermore, the descriptive analysis is used for linking and evaluating the performance of each of the indicators with the recapitalization strategies that have been implemented on the Greek banking sector for the past decade.

The study uses a series of hypotheses that are tested based on the results of the analysis and the background research. Several limitations were observed throughout the process mainly linked with the need to incorporate the qualitative research method as well as time and budged constrains.

The results showed that the strategies that have been implemented over the past decade have had noticeable results on maintaining the functionality of the banks mainly through the liquidity infusion. In addition, the results showed that the deposits have benefited from the strategies implemented mainly through a more solid banking system that increases the credibility of the banks in the eyes of the customers. The main problem that still needs to be addressed is the issue of Non Performing Loans where the results show no signs of having being made any significant progress. The implementation of new strategies on addressing these issues is recommended in order to have a reduction of the NPLs and a further consolidation of the banking system.

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Abbreviations

International Monetary Fund – IMF

European Union – EU

Non Performing Loans – NPL

National Bank of Greece – NBG

Emergency Liquidity Assistance – ELA

European Central Bank -- ECB

Introduction

The global financial crisis of 2009 saw the financial market absorbs a tremendous shock that required several sets of measures to stabilize the situation and begin a recovery process. Greece has been arguably the country that has suffered the most during this period that has seen a set of measured being taken without a sustainable impact on the financial and economic stability. An integral part of the financial stability within the country has been played by the banking sector that has experienced continuous crises since the beginning of the financial crisis. More specifically, the problems with liquidity, deposit withdrawal and non performing loans have been the major challenges that this sector has experienced since the start of the current decade. There have been continuous efforts by the banks, Greek government and international financial institutions on devising strategies that aim to bring stability back into the banking system of Greece.

This thesis will focus on the main strategies undertaken by national and international institutions on helping the Greek banking system to recover and operate in a sustainable manner that could also boost the Greek economy consequently. The strategies on which this analysis will focus are related to a set of recapitalization efforts funded by the European Central Bank and other European Union instruments that aimed to stabilize the financial market through the injection of funds that would allow the banks to safely operate. The agreement of a set of Memorandums of Understanding between the involved parties has seen three main efforts on recapitalizing the four systemic banks of the country after a series of comprehensive analyses of their performance and liquidity needs had been implemented. The analyses focused on CET1 ratings and other indicators that were performed by an external auditor, Blackrock, has been the main reference point for devising the recapitalization needs for each of the four systemic banks.

The first section will focus on the review of the literature regarding several aspects related to the banking sector in general and the transitions that it has gone through the past decades in Greece and on a global level. The review of the literature focuses more extensively on several aspects related to the causes that caused the crisis at the first place and the challenges faced by the banking system as a whole and more intensively on the four systemic banks.

Finally, the review consists on the timeline of strategies implemented throughout this period and a comprehensive analysis of each of the important milestones.

The second chapter focuses on the analysis of the available research methods that could be applied on the current research. The analysis of each method is provided in order to underline the advantages that the research will benefit from the research method selected and implemented. In addition, this chapter includes a set of limitations that were observed and their implications regarding the overall quality of the research. Finally, the table 1 shows the hypotheses that were developed in order for the analysis chapter to test and to provide statistical interpretation of the impact of recapitalization efforts on the financial performance of the four systemic banks;

NR	HYPOTHESES
H1	The recapitalization practices and liquidity inflow over the past decade have increased the consumers' trust and their deposits.
H2	Merger and Acquisition and recapitalization efforts impact directly the banks' equity
H3	Strategies followed by the banking system over the past ten years have been efficient into addressing the ever increasing rates of NPLs.
H4	The improvement of the banking environment has caused a positive impact into the loan performance of the banks

Table 1 Hypotheses

The above stated hypotheses will be tested individually based on the primary data that were collected through the analysis of the financial statements of the four systemic banks. In this context, the third chapter will focus exclusively on the analysis of the main aspect of the four systemic banks in Greece and the impact that the recapitalization efforts have had on those indicators. The descriptive analysis will be useful for being able to conduct a discussion regarding the impact of the recapitalization strategies on the overall performance of the four systemic banks.

The final chapter will be focused on the drawing the main conclusions that will be produced after all the previous steps will have been completed. In addition to the conclusions, there will be a section concerning the main implications and recommendations that will be addressed to the policy and strategy makers on the viability of such actions and the future implications that they could have on the banking sector and the Greek economy in General.

Banking system overview

Banks have been present for centuries for the primary purpose of acting as an intermediary between the savers and the borrowers of the financial assets. In this context, such institutions have been playing a crucial role into the flow of financial assets between different parties in a more efficient manner. Any attempt to provide a clear definition of the term "bank" may prove to be very complicated, as they have been evolving continuously on different aspects such as the types of services that they offer or the magnitude of their activities. However, the core operations of the banks is focused on the so-called "maturity transformation" that is focused on receiving their profit by "the spread between the rates they offer to the accumulated pool of savers, and the rates they offer to potential borrowers" (Bollard, 2011, pp. 2). Banks and banking institutions operate on a broad spectrum, from the individual financial service up to national and international presence that can include financial operations that involve governments and multinational companies. The variation of the banking presence in the economy has caused over the years to have almost every sector of an economy to be highly involved in such patterns.

The evolvement of the large financial institutions that are capable for providing financial solutions to large corporations and governments has seen major implications to the global economies. Nowadays, it is unthinkable for the vast majority of global economies not having incorporated the presence of the financial institutions into their long and short-term financial strategies. This presence can be divided into two main sectors; the systemic banks and the large international financial institutions. Systemic banks are focused more on providing financial services to the individuals and companies and their customer base is characterized by a larger number of individuals and entities. On the other hand, the larger financial institutions such as International Monetary Fund (IMF) and World Bank are focused on providing financial services to governments in the medium and long-term strategies. In this context, the number of their customers is limited but they are involved in far higher monetary transactions and services. Any comparison between the two banking services that were mentioned in terms of importance would be useless as they provide identical services to different types of consumers but the bottom line is that they are crucial for the stability not only of the financial system but also of a broader scale.

The relationship between the banking or financial institutions with the economy of a country have long been closely related. This relationship needs to be analyzed separately on two main streams; the systemic banking that is focused on providing financial solutions mainly to individuals and companies and the World Bank and International Monetary Fund whose objectives rely on assisting nations on the financial aspect and long term budgeting strategies. In this context, they might be very influential factors for the macro and microeconomic indicators of the economy of a country. More specifically, the main feature of the systemic banks relies on the interaction with individuals and business organizations. This feature has been intensified gradually as the services offered by the banks have become more inclusive to almost every type of financial operation that needs a certain degree of assistance.

This is due to the need of those economies for financial resources that can allow them to apply their strategies on economical and social issues. The trend of governments borrowing money from large banks is very common mainly because it allows them to inject liquidity into the economy. By borrowing the money, the economy can start to apply their short and long-term strategies of development. More specifically, governments can invest a large share of the borrowed money on different sectors such as infrastructure, industry, tourism etc. The theoretical understanding of such strategy lies on the idea that such investments are well analyzed and it is expected a specific return on investment from them that will allow paying back the loans but in the same time it will impact the economy on the short and long run. The vast majority of the countries worldwide follow this strategy. In addition, the amount of borrowed money is often higher than half of countries' Gross Domestic Product. Undertaking such risks of borrowing money on such amounts is a clear sign of the strong belief that the financial experts have shown to this strategy of fiscal policy.

The theoretical underpinning rightly suggests that the intensification of investments can provide really strong promises for growth of the economy. Such investments on a national level can be translated into more jobs, higher GDP, better competitiveness of the economy etc. The improvement of the above mentioned aspects is the dream of any government or citizen within a country. It can be argued that the intention on improving the figures of such indicators has been on the forefront of any decision that allows the public debt to increase continuously. However, the past decade has been a perfect example of how the short run strategies have caused enormous gaps for the long run on several countries.

Therefore, it seems that only the good intentions are not enough especially on the financial sector. The short-term impact of such investment strategies has almost always proven to be fruitful as numerous studies identify (Bank for International Settlements, 2010; Boyd et al, 2005; Elliot, 2009; Barrell et al 2009) the immediate impact that added liquidity has on almost every aspect of the economy. However, the short run is not a direct indicator of the successfulness of the fiscal policies as the direct injection of the liquidity is the main cause of the improvement of the figures. The most complicated and difficult to control stage of increasing the public debt is on the long run. While it is an easy task for any government to inject extra financial resources which it doesn't own and rip the benefits of such actions, on the long run this doesn't seem the case especially if the strategy lack the necessary prediction of the impact that numerous factors might have on the economy (Hardouvelis, 2011). In other words, the long-term strategies regarding the return on investment of the borrowed money needs to primarily focus on the sustainable benefits that will come from such investments. In this way, an economy may be able to afford paying back the loans without a need for tough measures on the fiscal and social policies. For example, the investments on the infrastructure require firstly to have feasibility studies that can indicate the ability of the specific project to deliver ROI and not turn into an investment that cannot provide benefits back to the society and businesses. The same strategy is similar in almost every other sector where an economy needs to be backed with. More specifically, agriculture, tourism, manufacturing etc; are always in need for extra investments be it from the governments or private entities. The main problem is that such investments must be able to provide a platform that will continue to assist a specific sector of the economy. By having efficient investments, the economy can benefit steadily over the years which can be a crucial part of the ROI that may not always come directly but also indirectly by the sectors of the economy that have benefited from those investments.

In this context, the use of the financial institutions by governments can turn out to be a major problem mostly on the countries that had very few studies regarding their long term strategies of development (Gotz et al, 2015). In the same time, those countries, mainly within the European Union, were given the green light by the banks on almost every loan that they applied over the decade prior to the 2008 global financial crisis. Although, the countries' governments were the ones held directly accountable for the crisis in each specific country, there is a great of accountability that should be addressed to the organizations that granted those loans without performing any significant study on the abilities of each individual country to pay them back.

International Banking Trends Before Crisis

The intensification of the globalization policies and legal frameworks on a global level has played a major role into reshaping almost every aspect of social, economical and financial patterns over the past decades. The main aspects that characterize it are mainly related to the openness of the global markets and ease for the businesses to be present in almost any specific market as long as they possess the necessary human and financial resources for such expansion. A major player on the globalization efforts over the past decades has been the World Trade Organization which, has assisted on diminishing the barriers between economies mainly through a set of trade agreements on an international level. Over the years, globalization has granted access to international companies worldwide while the global economy seems more connected than ever before. On the other hand, a negative aspect from such developments could be related to the high exposure of individual economies in front of any crisis or phenomena occurring in the international scene.

The previous paragraph underlining the main aspects of the globalization is very useful on gaining a better understanding of the international banking trends over the past few decades. In this context, the financial markets have gone on similar track with other sectors of international economies in the aspect of their long term strategic management of the operations. Historically, there have been three main period of international banking flourish. Namely, the financing of the US railroads by European investors during 1830 was performed mainly by making use of the underwriting securities. The second wave consists mainly on international banking involving governmental transactions mostly focused on developing countries which lasted for almost three decades starting in 1960'. Finally, the third flourishing period for international banking was witnessed after the 1980' recession in the United States economy as well as oil and energy crises a couple of years before that. This wave of international banking was the strongest and lasted for more than three decades only to get interrupted by yet another global financial crisis in 2009.

The international resurgence of the international banking came as a results of a set of factors such as the globalization of the economies, the ability to offer retail banking to more customers as never before and the reduction of fiscal barriers from less developed countries (Lane and Milesi-Ferretti, 2007). Through a set of trade agreements, the financial institutions and banks had an easier access to numerous developed and developing economies which provided with a great opportunity for the international powerhouses in the banking industry to expand their activities. From 1980' until the end of the millennia, the international lending had risen continuously at rates of about 4% as the relaxation of the barriers and the need for additional capital provided with the perfect environment for a sustainable growth. In this timeframe though, it is noticed a more dynamic growth of international banking activities mainly through lending on the developed economies compared to the developing and emerging markets (Beck and Levine, 2002). This pattern was more obvious during the decade before the global financial crisis had hit almost the entire global economy and financial markets during 2009.

The growth on the international banking activities could be associated with the growth of the international trade and other macro economical indicators on a global level. In this context, the growth mirrors the improvement and rapid expansion of international trade. The globalization and the integration of global economies has been a major factor on such developments according to Beck and Demirgüç-Kunt (2009). This was the case until the dawn of the 2000'. Almost a decade before the global financial crisis witnessed an unprecedented and dramatic increase as per the intensity of the international banking activity (European Central Bank, 2015). While there was a growth based on the increase of the international trade, the nine years before the crisis saw a shift of the ratios as it was not based on the real growth of the economies and trade anymore. The intensification of the international banking activities did not mirror the actual growth of the economy, instead it mainly represented a lack of clear strategic vision and planning on the long term for the financial players on a global level.

The introduction of the common Euro currency within a number of member states within the European Union saw yet again the development of an easier to access market on the aspect of financial activities. In this way, the unified currency provided with better and stronger image, which was a significant aspect that boosted the initiatives of international and national banking systems to lower the restrictions for the borrowers. The new structure provided with better opportunities for less developed countries within the EU to take advantage from a stronger currency and increase their national debt and in the same time the individual loans as well.

International banking during and post crisis

The primary causes of the global financial crisis were identified the high default rate of the home mortgage sector mainly in the United States. The chain reaction infected or exposed the accumulated deficiencies on a wide range of sectors not only within the US market but on a global scale (Kapopoulos and Lazaretou, 1997). The crisis is believed to be the heaviest after the 1930' great depression. Although, the mortgage sector suffered the first consequences from the crisis, the long term challenges were presented to the international and national banking systems of almost every economy. This issue became more evident once the financial crisis was associated with enormous national debts accumulated by several European Union member states and the United States economy (Malul et al, 2009). The crisis highlighted the deficiencies on the international banking system and the regulatory environment in place.

The first stages of the financial crisis did not have an immediate impact on the banking activities worldwide, as the real consequences would be noticeable almost a year later. In this context, the banking system on a global level was hit the hardest by continuous emergence of economies that found themselves in troubles regarding their abilities to act accordingly regarding their debt payments. An important factor that contributed to the crisis on the international banking was the inability of economies to perform to the earlier projected performance (Gordoon, 2011). In this context, the stagnation of the global economy put an immense pressure on banking system as well as gave a real test to the processes of operation and risk management that was done until that point by them. Interestingly, the crisis caused for such deficiencies to surface and showed that the gaps into the regulatory environment were significant causes for the quick transmission of the negative effects from a specific economy to the global one (Drogendijk and Hadjikhani, 2008).

The quick transmission of the crisis' effects into almost every economy is illustrated by the impact that it had on the international banking performance. More specifically, data gathered from the Committee on the Global and Financial System (2010) (see chart 1) show that the international banking system saw very rapid decline on their performance in the period which coincides with the peak of the GFC. Moreover, the chart provides important information regarding the performance of the banking system during a decade prior to the crisis. The results support the claims that the growth of this industry prior to the crisis was unprecedented and did not match the real growth of the markets.

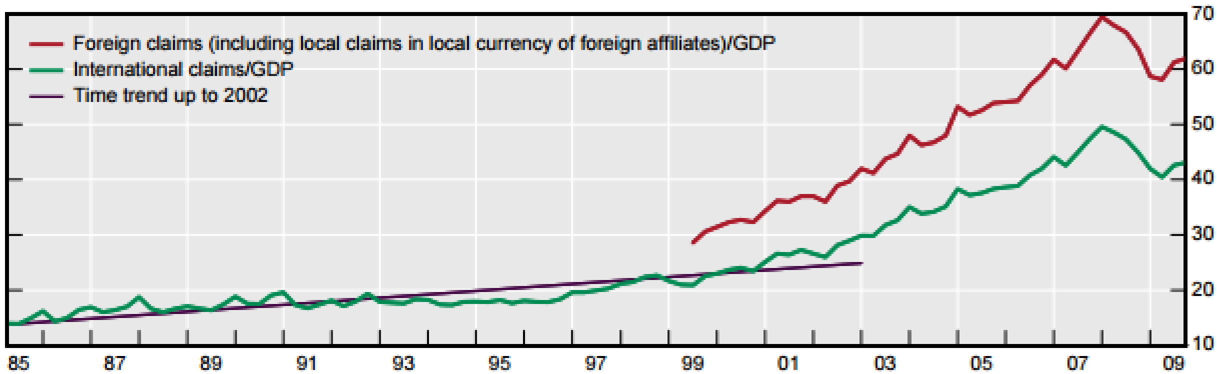


Table 2, Performance of international banking system (ECB, 2014)

The increase of the banking performance on a global level is difficult to be fully explained, although, (ECB, 2007) suggests that the under pricing of risk through the early 2000' provided with more opportunities to the banks and to their customers to increase their cooperation. On the other hand, the expansion of these activities underlines the assumption that the ratio between international banking growth and the performance of the real economy activity was not in the same balance as had been in the previous decades.

The crisis indicated the need for a reformation of the regulatory environment as well as the long term strategic managements in the banking system (Thanou and Daskalakis, 2013). The impact of the crisis on this sector is still evident in the global performance for this sector as there is a constant reduction of the foreign banking claims to the GDP growth ratio since 2007. Moreover, 2007 is the year with the peak on the performance of this sector while the drastic decline during the crisis was not a solitary consequence. In this context, several factors have caused the growth of this sector to remain in very low and steady figures since the crisis outburst. One of them is the change into the regulatory environment that was implemented in order for the prevention of such errors in the future. In addition, the governments of countries have become more cautious on their policies of public debts (Debt Truth Committee Hellenic Parliament, 2015). In this group of countries are included not only the countries that were hit directly by the crisis but a broader group as the events and consequences felt in economies such as the Greek, Spanish, Irish etc, acted as a turning point for the restructuring of the national debt policies and strategies.

Banking system of Greece

After the World War II, the Greek government took in custody the banking system which meant that for the next four decades they would be dictating the strategies on which sector the banks would provide more financial assistance. In this context, the government had detailed analyses of the sectors of the economy that were prioritized such as agriculture, exporting firms etc. Through such strategies, the naming system would provide low cost loans to businesses operating in specific sectors of the industry in order to boost the economy in accordance to the government's strategies. An important fact that needs underlining is the strict regulatory environment that denied access to other banking institutions to operate in the country. This pattern caused for over four decades for Greece to have only public banks which were regulated internally. The same strategy was followed right until the country begun its efforts to harmonize the legislation to the one of the European Union during the 80'. Being part of the EU was a key turning point for a set of regulatory frameworks that were gradually modified in order for harmonization to the common regulations within the Union. Part of such modifications was the banking system as well. In this context, Greece was forced to withdraw the restrictions regarding the entrance of new players in the banking sector by removing the requirements of the 40 percent of the new banks' capitals to be invested in bonds along with other restrictions (Gibson and Demenagas, 2002). Such changes had an immediate impact on the liberalization of the banking sector in the country. By mid 90', the Greek banking system was fully modified in accordance to the EU framework and the banks could operate with their full range of commercial services.

The relative late liberalization of the banking system compared to other EU member states meant that this sector in Greece was less developed. By mid 90' the services provided by banks in a liberalized system were done through roughly 24 bank branches per 100.000 people (Thanou and Daskalakis, 2013). This figure is an important indicator of the differences that existed between the majority of the EU member states and Greece. Although, it can be argued that the need for banking system could be linked with the economic growth and increases on the country's GDP as more productive an economy the more likely it is that it will require more intense financial assist from the banks. Still, the ratio between the GDP growth and the bank branches is lower than of the vast majority of the EU member states. On the other hand, this situation was soon to be changed especially after the country agreed to incorporate the common Euro currency (Katsaitis and Doulos, 2009). The implementation of the EU fiscal policies during the 90' as well as the financial integration provided with enormous incentives for the Greek banking system to witness the highest growth rates ever recorded (Ioakimoglou, 2011). In addition, a key role into such a growth was played by the significant decline of both the nominal and real interest rates (Bryant, Garganas and Tavlas, 2001). The low rates together with the smoother restrictions provided with a banking system that was able to provide with loans for a larger part of the economy and individuals within the country. This resulted in a continuous lending growth that was significantly higher than that of the EU average.

Banking structure 2002 – 2007

The implementation of a set of easing reforms in the banking sector in Greece provided with the perfect environment for the flourish of this sector. The adaptation of the common Euro currency was a key landmark into the ability of the Greek banks and its customers to be able to improve the lending rates at a staggering rate compared to the previous decade (Halkos and Salamouris, 2004). This growth was reflected into a dramatic increase of the banks' branches that increased from 24 for 100.000 residents in mid 90' to 3 per 10.000 residents (Hardouvelis, 2006). In addition, the banking system maintained a constant growth of their assets accounting for roughly 150% of the country's GDP. This was mainly seen as a measure of sustainability as the banks were aiming a constant growth that would go in the same line with the growth of the economy.

The banking system during this period was largely operated by Greek commercial banks that controlled more than 80% of the assets in this sector. In addition, the rest of the assets were controlled by foreign banks and special financial institutions. This was seen as a major advantage regarding the sustainability of the Greek banks and in the same time to their ability to stifle the competition that increases mostly when the sector was having such a significant growth (Christopoulos et al, 2002). This, resulted into turning the Greek banking sector to be one of the most concentrated compared to the other countries within the Eurozone. The largest Greek banks during this period as per size of the assets they controlled were; National Bank of Greece (NBG), Alpha, Eurobank, Piraeus, Agricultural Bank of Greece, Emporiki, Geniki. An important aspect of the Greek banking system was the relative large number of small banks, which were able to provide specialized services to specific segments of the market. Despite the emergence of small banks, there were very limited developments of regional banks during that period. On the other hand, the merging of those banks would be seen as a major factor on recapitalization and reformation of the system especially after the burst of the global financial market.

Financial crisis

Before getting a detailed look into the global and Greek financial crisis outburst, it seems legit that it is conducted a thorough analysis of the main factors that contributed to the heaviest crisis since the great depression. According to a Bank of Greece study (2014, pp. 4), "the crisis was primarily a result of long-term domestic processes, which led to an accumulation of macroeconomic imbalances and structural problems". In this context, the analysis of these major processes can be crucial into gaining a better understanding of the main characteristics of the crisis and its impact mainly on the banking system.

Many researches address the initial stages of the debt mounting on the stage when Greece adhered to the European Monetary Union which replaced the Greek currency Drachma with the common EU Euro (Ioakimoglou, 2010). The process was met with great expectations as the country would be able to take advantage of the competitiveness of a stronger currency and make an attempt to join the powerhouses of the European Union with more developed economies. There exists a common understanding amongst financial experts and researchers at the present regarding the lack of a thorough analysis of the benefits and challenges that a common currency would provide to the Greek economy on the short and long run (Vives, 2000; Bortz, 2015). After almost a decade since the outburst of the global financial crisis, there is still no clear and definitive answer to the role that the common currency played on the financial crisis that hit the Greek economy almost a decade after its initial implementation (Kentikelenis et al, 2011). An important factor associated with the Euro currency introduction allowed the lending restrictions to ease dramatically compared to the periods before the implementation of the treaty.

The financial crisis in Greece was mainly related to the enormous public debt accumulated over the years and the inability of paying it back. An important factor that contributed to the worsening of the economical and financial conditions of the Greek economy was the impact that the news had on the market. More specifically, the markets' reaction towards the enormous national debt contributed to the worsening of the economical indicators as well as the economy's competitiveness. In addition, the recession that followed almost every sector of the economy was a reasonable factor that influenced the social and political stability within the country. Having said that, the inefficient strategies followed by the government and the European financial institutions caused the public debt to rise from 129% of the GDP during 2009 and increased to more than 160% by the end of 2012 (Mitsopoulos and Pelagidis, 2011). The dramatic decrease of investments and the increased taxation policies caused a further decline of the economy as more businesses were closing down. In this context, the storm had put a tremendous pressure on the liquidity both for the government as well as the banking system.

An important factor that caused a series of liquidity crises for the banking system was the extensive trend of people and businesses withdrawing their savings as the fears and uncertainties were becoming more evident. The banks had to continuously approach the ECB's Emergency Liquidity Assistance (ELA) in order to solve such short term liquidity crises that avoided a collapse of the banking system. In addition, the liquidity crises have been a major threat over the years as different factors have contributed to an ever-going systematic crisis that been a constant test for the banking system since the beginning of the crisis.

On a broader perspective, the Greek banking ongoing crisis were caused by a set of factors; more specifically, the interruption of the activities on the international markets and the enormous deposits outflow were major factors. In addition, the stormy economic conditions caused a diminutive influence on the asset quality. Finally, the strategies of the Greek government on restructuring of the national debt influenced greatly the banking sector mainly as their strategy was involving the private sector.

The deposit outflow caused systematic liquidity crises over the years but that was not the only negative aspect for the banking system. In addition to that, the banks lost significant part of their ability to conduct and provide services to their customers (Gordon, 2011). More specifically, the restrictions for granting loans were greatly raised. In addition, the loan recuperation had became extremely difficult as the customers and businesses were unable to keep up with their initial expectation and the decrease of performance caused significant damage to the ability to pay the installments. These factors had a direct impact on the overall performance of the banks and stressed the need for addressing the crisis management strategies.

The banking system is directly related with the economic conditions and the business climate that is available. In this context, the turbulent business and economic climate after the crisis was a major factor that deprived the banks from maintaining the performance but in the same time to maintain also the value of their assets. The credit rating by international financial institutions such as Standard and Poor's and Moody's caused continuous stress for the economy and banking system. Having said that, the credit ratings were up to date indicators of the inability of the Greek economy to perform on the financial aspect which had a direct impact on the asset evaluation of the banks.

The strategies followed by the Greek government supported by the foreign creditors aimed at the reduction of the deficit and a sustainable improvement of the financial figures. The strategy was focused on two main streams; the reduction of public spending by the government and the increased collection of taxes. The formatting of the budged saw severe cuts on crucial sectors such as wages and pensions, investments, subvention on crucial sectors of the economy etc. On the other hand, part of the strategy consisted on a significant increase of the taxation rates both for individuals and businesses (Podaras, 2012). Such strategy caused for an undermining of the business and entrepreneurship as more and more businesses were shutting down or relocating on other countries. This strategy had a negative impact on encouraging the improvement of the business performance and their performance. The chain reaction caused the increased unemployment, reduction of wages and systematic willingness of individuals and businesses to withdraw their deposits from the Greek banking system (Balkin and Mix, 2010). The deposit withdrawal was a persistent problem also for the reason of great fear from the system collapsing. The continuous efforts of the government to maintain the debt at manageable levels in collaboration with the international creditors did not provide a significant indicator of the long term stability. In this context, the fears of a system collapse or exit from the EU or EU currency system were transmitted into a willingness of the people to withdraw their savings and deposit them on other countries with more stabile banking systems. The extensive deposit withdrawal from the banking system has been constantly threatening the ability of the banks to provide the required liquidity. In addition, a major problem is directly related to the enormous losses on the banks' capital as they have been unable to hold onto the deposits thus being unable to conduct business in terms of financing businesses and individuals through loans and other forms of investment.

One of the most crucial factors on the response of the government and all the financial institutions involved into easing the crisis is the debt structuring. In 2012, the debt restructuring begun as an incomplete process since the overall debt had suffered dramatic increases while the financial actors were trying to put it on a sustainable schedule. The attempts on restructuring the debt were seen with major doubt and protest throughout the country as the majority of the plan consisted on hitting harder the welfare and taxation policies that intended to put the high rate of responsibility to the taxpayers rather than sharing it with the creditors and financial institutions. In this context, the restructuring of the debt came with severe conditions to be met by the government in different areas such as; taxation, administration, privatization of public assets etc. It needs to be noted that the majority of these measures put more pressure on the citizens and the businesses as the reduction of the expenses and the increase of financial resources were the primary scope of such strategies. It needs to be noted that the overall deterioration of the economical situation helped by the austerity measures had its own implications on the banking sector. This came as the businesses and individuals found themselves on worst financial conditions and unable to comply with the financial requirements as in the case of the loans.

The problem for the banking system starts earlier than the public outbreak of the crisis. Pagoulatos (2012) argues that the banks were surrounded by a set of structural problems that allowed for extensive and inefficient business conduct. In this context, the banks created the perfect environment for the coming storm especially regarding the Non Performing Loans (NPL) and the liquidity problems that were mentioned in earlier sections. The main reason for the high rates of NPLs after the crisis could be addressed to two main aspects; Firstly, the loans during the period before the financial crisis were characterized by very low restrictions and barriers by which the banks were granting the loans to both individual and business loaners. Secondly, the NPLs were impacted on a great scale by the performance of the economy and businesses. In this context, as the crisis erupted and the economy fell into stagnation, the businesses and households found it ever more difficult to generate their projected income for being able to pay back the loans.

In this context, the strategy followed by the banking system in general regarding the loan strategy before the crisis had a direct impact on the NPLs. More specifically, the NPLs grew dramatically once the crisis went public. The figures show that between 2007 and 2012 the NPLs increased from only 5% to around 25% (Monokroussos et al, 2016). In other words, over a period of five years, the banking system could not collect nearly one fourth of the loans that they had granted to the customers. The impact of the NPLs on the four systemic banks in Greece proved to be very crucial into their ability to generate needed liquidity and overall performance. In this context, the banks initially increased the barriers for the allocation of new loans although that scenario was not fully efficient as it just stopped important parts of the economy not being able to perform and mount the problems of the overall economy. The NPLs were instrumental into the problems of the banks and the financial system in general. An important indicator the Core Tier 1 Capital and the ratio between this indicator and the indicators related to the loan performance illustrate the scenarios. The projected credit loss and other related indicator to the loan performance were rated at nearly 160% of the CTI which is a resounding figure that illustrates the problems of the banking system. The high ratio between different aspects of NPLs and the CTI show that the banking system had followed strategies that would eventually lead into an insolvency crisis regardless of the further deterioration of the economical conditions.

Capital control measures

Capital control was imposed in the summer of 2015 by the Greek government for the purpose of slowing down the mass deposit withdrawals. Up to that point, the government had been involved in intense negotiations with the creditors over potential improvements on the debt payments and a set of required fiscal measures. On several occasions, the Greek government had gone on the brink of being unable to meet the payment deadlines which could cause the expel of Greek banking system from the Emergency Liquidity Assistance (ELA) thus causing a demolition of the system. The fears of a possible Grexit or bankruptcy have had a direct impact on the attempts of the Greek citizens and companies to withdraw their deposits in order to protect them from any such event. The withdrawal problem is better illustrated by the Greek central bank figures for the first half of 2015. In this context, during that period there were 45 billion Euro withdrawn from the Greek banking deposits. From that amount, more than one third was redeposit on accounts abroad while the rest being used for paying different types of expenses.

The enormous amount of money fleeing the country especially during that period forced the government to take strict measures that would bring a certain stability to the banking system.

A host of factors mainly related to the political instability caused constant fears over the safety of the deposits for several years. A notable event on the political scene consisted on the national referendum over the willingness of the Greek citizens to allow the government on agreeing with the bailout scheme proposed by the European Commission, the IMF and the European Central Bank. The eruption of a certain stability that was reached especially on the social aspect was soon to be destroyed after the leftist party Syriza won the elections in January 2015. The main electoral promise of the party was to renegotiate the agreements with the foreign creditors in order to restore the economy and to set the debt into a sustainable path. The new government was soon to find that such negotiations would not go as swiftly as firstly anticipated.

The growing insecurities reached their peak with the decision of the government to allow their citizens to decide over the continuation of the cooperation with the creditors or to terminate such actions. The referendum meant that there was a real chance for Greece to exit from the European Union or worst, accept bankruptcy. Although, the referendum's result was later ignored by the government, it did not stop the instabilities and fears amongst the citizens to mount once again in very fast rates.

The political decisions and the social response can be named as the main factors contributing to the most intensive deposit withdrawal especially since the fears of a fiscal system breakdown were as present as ever before. Such developments put once again on a tremendous pressure for the banking system and their ability to afford the mass loss of the liquidity through deposit withdrawals. In this context, the banking crisis hit its climax during the weeks before the referendum which, called for setting immediate measures that would prevent a deterioration of the savings accounts throughout the country. Initially, the banks were closed for several days due to their inability to support all of the withdrawal demands by their customers.

The capital control measures consist on restrictive measures regarding the amount of money that could withdraw in a week. More specifically, there is a 420 Euro withdrawal limit within a week. In addition, the restrictions apply to every type of account be it individual or business which caused several problems especially for the companies that were in constant need for cash for being able to operate their business activities normally. Despite the problems that this strategy caused on the short run, the attempts on bringing stability to the banking system seem to having seen a good level of efficiency. In this context, the banking system has gained a certain momentum regarding this issue that allowed the government to decide on loosening those restrictions in the near future.

Recapitalization efforts

As it was mentioned in earlier sections, the introduction of the Euro common currency in the Greek economy had significant impact on the ability of both the public and private actors to get easy access into funds from the banking system. The Greek banking system had plenty of resources from where to get the funds for operating as the banks in the core Euro zone countries faced difficulties on their domestic saturated markets. In this scenario, the strategy of spreading their activities rapidly into the newly accepted Euro zone country was an option with high potential that salvaged them from the saturation of the domestic market. The same strategy line was heavily supported by the ECB and other European Financial institution as it was in the interest of the Union to have a more diversified economy throughout the EU members. The idea that the financial integration was ideal for the values of a unified economy within the member states was a major factor that pushed the EU commission and ECB to strongly support such strategies and to ease their control over the long term implications that it could have.

The new and simplified integration of the economy got so intense over a series of consecutive years until the claims of the banks from the core Euro zone banks on the Greek banks and government reached a staggering figure of €150 billion in 2009 (6). It is worth underlining the fact that the European authorities did very little to address the unsustainable debt until it became very late for taking any action that would prevent the following years of the crisis that followed.

Before the outburst of the financial crisis, the banks had taken little or no actions on addressing issues regarding the strategic challenges that they could face on the short and long run. This was due to the high performance that each sector of the banking system in Greece had from 2001 until 2007. More specifically, this timeline saw a dramatic increase of the banking system performance as all of the indicators were on a continuous hike. More specifically, the debt of the households including several types of loans increased from €23.8 billion in 2001 to a staggering €105 billion six years later. In addition, in the same period all of the other lending activities from different non financial institution rose to similar rates (Anastasatos, 2008). While, the debt by the public sector had increased nominal values but the weight of it to the country's GDP decreased from 106% to 103%.

There is a strong link between the Greek government and their financial conditions with the banking system of the country. Especially, for the impact that the events in one of them could have on the other, during a series of events on the financial aspect. In this context, the funding conditions for the entire system during the ongoing financial crisis could impact both of these two players of the Greek economy. On the other hand, the link between the two was even stronger on the aspect of insolvency that one of them might be prone of. The main understanding regarding the insolvency of either the banks or the Greek governments was that the insolvency in either of them could cause an eventual inability of the other to survive, thus, admitting the bankruptcy (Malliaropoulos, 2010). The nurturing of the problems has always been negotiated or supported by the European Central Bank and it mechanisms. The ECB has had a significant role into the strategy that has been followed for consecutive years while attempting to rescue the Greek economy and finances. The most influential decision is related to the bailout attempts that were mainly designed to protect the creditors and their investments rather than to provide a sustainable solution to the already enormous national and private debt. The bailout funds consisted of €110 billion that were granted to the Greek government for addressing the insolvency problem of the government and of the banking system. Since this strategy failed to provide any significant and long term solution but just increased the amount of debt owned by the Greek economy to the creditors, there was an immediate need for further actions that would be effective rather than just aimed at protecting the investments of the creditors. The recapitalization of banks has been an ongoing process while continuous assessments of such strategies were conducted in order to evaluate the needs and the efficiency of such operations.

Bank recapitalization

The financial crisis underlined the importance of the liquidity on the banking system as a methodology that would allow the banks to operate fully and to contribute into the economic growth. A mixture of negative and damaging events like the deposit outflows, the weakening of the asset quality and the use of Private Sector Involvement for the purpose of restructuring the national debt caused the banking system to fall short of the needed liquidity for normal operations (Fabo et al, 2015). In this scenario, the need for the recapitalization of the Greek banking system was deemed necessary by the Bank of Greece (2012) and the EU financial institutions.

The bank of Greece (2012) suggested that the recapitalization structure would enable the Greek banking system to operate fully and to have a significant role into supporting the economy and its revitalization. More specifically, there were a series of reasons behind the recapitalization strategy that aimed to put the banking sector back in track. The injection of the necessary liquidity based on a set analysis determined the necessary intervention that was required for the stability of the sector in general. It needs to be noted that the process was fully supported and encouraged by the foreign financial institutions like IMF and ECB who are also the biggest lenders of the debt that Greece owns to the foreign institutions.

Being aware of the importance of Greek banking system to the entire economy, the government and the foreign financial institutions allocated around €50 billion to the banks for the primary source of recapitalization as well as another €85 billion in guarantees (Fabo et al, 2015). These installments were applied after extensive analysis of the needs of the banking system and were supported by the government as they attempted to consolidate the banking system in order to push the economy on a greater scale while they gained that consolidation and recapitalization. The true efficiency of such strategies can be analyzed by checking at the financial data for the four systemic banks that have been very influential into the overall banking system in Greece.

Non Performing Loans

One of the most important issues that have been accompanying the Greek banking system over the past turbulent years is the increased percentage of the non performing loans. The inability of the customers to pay back their loan installments became an obvious problem when the entire economy felt the impact of the crisis. In this context, the drastic loss of competitiveness of the Greek companies and the fall of incomes for the individuals caused increased difficulties to pay back the arranged installments. The impact of the economic and financial crisis on the NPLs is direct as the crisis damaged severely the performance and income levels of the businesses and individuals (Louzis et al, 2012). The latest, found themselves unable to meet their own expectations on a financial level as the unemployment rose sharply and the incomes were hit hard by the fiscal measures by the government accompanied by a dramatic fall of the economy' competitiveness.

The high rate of the NPLs has often been nominated as one of the primary causes for the banking systems' insolvency crisis. The inability of the banks to collect the loans that they had granted over years has been an influential factor on the inability of the banks to collect the necessary liquidity that would avoid the increase of insolvency. On the other hand, the high rates of NPLs meant that for several continuous years the banking system would apply the harshest measures that would filter the potential customers that would be granted a loan (Makri, 2015). The increase of the loan barriers has been an integral part on the banks attempts to put a stop to the chaotic NPL figures over the post crisis era.

A factor that seems to have a direct impact on the NPL fluctuations is the political and economic events. In this context, the initial imposing of the capital control did impact the ability of the businesses and individuals to withdraw money from their bank accounts. Such events produced fears amongst the market that they would be unable to have full access on the accounts or that there would be difficult or impossible to run the businesses without the needed daily liquidity of the banks. In this context, the businesses would feel any turbulence that would happen in the market and became very vulnerable in front of changes on the market. These changes that impacted negatively the businesses' abilities to perform into their normal standards they had similar impact on the potential of the businesses and the individuals to meet the projected turnover that would allow them to fulfill their financial obligations towards the banks. The changes in different parts and section of the market and of the political system had direct impact on the increase or decrease of the NPL percentage for all of the four systemic banks (Makri, 2015).

The Memorandum of Understanding which gave the green light to the recapitalization of the banking system in Greece with the funds begun to get allocated by mid 2012 (European Commission, 2013). The issue of the increasing NPLs did not cover much of the discussion on the process of the recapitalization as the main aspects were related to the fiscal stability of the banks and their needs for liquidity. On the other hand, the external consultant that was hired for performing the stress tests (Blackrock), mentioned the NPLs issues on their final report and the theoretical underpinning consisted on the fact that the improvement of the economical and fiscal conditions would have their impact on nurturing the NPL problem. The theoretical underpinning rightly suggests that the improvement of the economy and business climate can impact positively aspects like income, employment, business performance etc. As a result, those improvements could lead to an elevated ability of the lenders to meet their loan payments.

The theoretical methodology could not come to life during the next three years after the agreement of the recapitalization of banks in 2012. The main reason related to the failure to improve on the collection of the loans can be attributed to the failure to meet the projected improvement of the economy accordingly to the researches of International Monetary Fund (IMF) and other financial institutions. More specifically, the projections for the years 2012, 2013 and 2014 were very optimistic but the reality showed that they failed to be met by the Greek economy in reality. In this context, the GDP growth could go above 0% only on the third year (2014) of the projections done by the IMF. This scenario had proved that the theoretical underpinning of the NPLs reduction as the economy improves was right, but in the case of the Greek economy it happened, quite the opposite. The failure to improve the GDP growth had direct impact on the NPLs as they continued to grow and during the 2013 they reached 40% of the loan portfolio.

The continuous assessments of the ECB on the banking systems of the EU provided with better results for the performance on the Union. More specifically, the Comprehensive Assessment undertaken by this institution in 2014 claimed that the financial environment was stabilized within the Union. In the context of the Greek banking system, the assessments during 2015 failed to meet the expectations mainly because the GDP growth and inflations were not in similar rates to other member states. In this situation, the ECB was not efficient on implementation of strategies for nurturing the problem faced by the Greek banking system (Gotz et al, 2015). The NPLs hit new heights as they had been increasing since 2008 as they proceeded in the same line with the economy’s productivity and GDP. The NPLs during 2015 reached more than 45% of the total loan portfolio which is a trajectory that has been going on since the introduction of the financial crisis more than six years before. The situation further escalated during 2015 mainly due to a set of political events such as the national referendum, the hefty negotiations with the creditors and Troika etc. Such events continue to increase the uncertainties surrounding the market which continues to impact the further increase of the NPLs whose impact on the banking system has been enormous on several aspects mainly related to the liquidity and the ability to perform efficient operations.

Assets

The asset quality is a very important indicator of the long term stability of any organization. In this context, the efficient management of the assets could be a real indicator of the ability of any business organization to maintain and expand its portfolio thus expanding the available resources and increasing the trust on the investors' and market's eyes. The Asset deterioration has been a prominent issue for the Greek banking over the past years due to several factors related to the economical and political environment (Beck et al, 2013). For instance, the asset deterioration has been one of the main aspects that have been addressed during the efforts to stabilize and rescue the Greek fiscal environment (Kosmidou and Spathis, 2010). A set of strategies and reforms designed either by the Greek government or the international creditors has been focused intensively on making efforts to nurture the asset quality of the banks in the country.

The balance sheet of the four systemic banks in Greece namely; Piraeus, NBG, Eurobank and Alpha has been impacted by the deterioration of the assets. The asset quality is crucial into the stability of the banks and their ability to perform on their expectations. The case for the Greek banking system might be more complicated especially based on the previous couples of years. The asset quality has been decreasing over the years but the figures might not be fully accurate. Such assumption is based on the findings of the ECB's Asset Quality Review (2015). The main purpose of the Asset Quality Review was to determine more accurately the actual asset quality as the banks fail to recognize the real losses coming from the losses which are at different values than those stated on the financial books. The asset review is a very useful tool that helps the assessments and the stress tests that are performed especially during the evaluation of the banks' needs for support by the international institutions mainly on the aspect of the liquidity through the recapitalization mechanisms.

The asset review has been an instrumental part of the CET1 reviews conducted continuously by the ECB in order to evaluate the performance and conditions of the banking system. It needs to be noted that the CET1 evaluations have been more extensive and inclusive to the changes into the political and economical scene. More specifically, based on the results from the external auditor Blackrock (Bank of Greece, 2015) the CET1 ratings of 9.5% and 8% were applied for the baseline and adverse scenarios respectively in 2015 assessment. Compared to the previous year, the CET1 ratio were higher as they were in accordance to stricter analysis of the external environment and the projections.

Merger and acquisition

In contrast to the increasing frequency of the need for bank recapitalization over the last few years, the merging of them has been present for more than two decades on the Greek banking environment. The merge of the banks but also on any other sector of the economy provides with distinctive advantages for both companies who are part of the process. One of the main advantages is related to the increased potential on both human and financial resources in the case when two separate entities unite as one on the market (Martynova and Renneboog, 2006). As it regards to the banking system, there is a very influential aspect as it regards to the merge. For instance, the ability to have a stronger and larger portfolio of assets, human resources and branches makes these banks more able to resist to the changes of the market. On the other hand, the banks with smaller capital can face more difficulties for surviving into the harsh market even without taking into account the harsh fiscal problems that the Greek banking system has been facing.

In the context of the banking system restructuring in order to improve their ability to withstand the pressure that has been impacting the market in Greece, the banks and the regulatory institutions have been looking into numerous strategies that would impact that aspect. One of the most elaborated aspects on banking stability has been the recapitalization for keeping the banks within the boundaries of being able to function fully on a market that has been hit the hardest by the liquidity crisis and deposit withdrawals. The recapitalization cannot be fully efficient on solving all of the issues faced by the banking system alone. This strategy needs the back up from the banks their selves on making the best out of recapitalization by increasing their performance and a set of aspects that need to be addressed (Montoriol-Garriga, 2008). The post crisis was a period that uncovered a lot of deficiencies on the banking operations and their efficiency. In this aspect, the smaller banks are more likely to be the frontrunners on such deficiencies mainly because of the lack of the necessary human and financial resources. At this stage, the merge process and strategy comes as an efficient tool that can benefit both, the big and small banks on a long term rate (Beitel and Schiereck, 2001). The small banks can be more competitive by being under the umbrella of the largest ones while they can stop struggling for survivor while on the other hand, the largest companies can benefit from the increased market share (Altunbas, and Ibàñez, 2004). The market share is very important in such strategies mainly because small banks tend to work on niche markets and to satisfy a very specific section of the market. In this way, it is difficult for the larger banks to penetrate through those segments of the market and capture the market share.

The banking system has been witnessing continuous processes of merge throughout the years. The first stages that allowed such activities to be available are related to the lift of the barriers and the liberalization of the market. In this context, the changes that happened about three decades ago consisted on a set of legal changes that allowed the banking capital to flow more easily from one entity to another. In this aspect, the merge of the banks were a necessity for a number of mostly small banks that were not able to perform to the best of their abilities by themselves. In this condition, the larger banks were always looking for setting the tone into the market and the merge was a quick and effective process that would increase importantly the market share and the percentage of the capital being invested in the country (Athanasoglou and Brissimis, 2005).

An intensive period of merging processes was noticed during early 2000'in which five similar processes took place. The analysis of Mylonidis and Kelnikola (2005) enlists the following significant activities of banks on this aspect; More specifically, Piraeus Bank completed the acquisition of Macedonian and Thrace Bank and Chios Bank by the end of year 2000. The Bank of Central Greece merged with Egnatia Bank and used the name of the latter. Elsewhere, Eurobank completed the merge process with the Ergasias bank and spread its brand name on all of the merged operations and branches. Finally, Alpha Bank acquired the Ionian Bank on those same years.

Methodology

The selection of the efficient research method is a crucial process that could affect the overall quality of the research. Having said that, the two common choices over the research methodology are the quantitative and qualitative methods (Rajasekar, 2013). In this context, the quantitative method focuses mostly on the analysis of numbers and data and interprets them through a statistical approach. On the other hand, the qualitative method focuses mostly on analysis of the phenomena by investigating the causes and impacts of several aspects to the main subject that is being studied (Deniz et al, 2005). Both methods have specific type of application on specific type of research as they provide sets of advantages and disadvantages for the process and the overall quality of the research.

One of the main advantages of the quantitative research method is related to the ability to collect and analyze a large amount of numerical data and interpret them statistically (Shields and Rangarjan, 2013). The statistical interpretation allows for testing hypotheses that are crucial in this type of research in order to draw final conclusions on the matter. The numerical display of the results makes it possible for a series of different ways of displaying the results in order to make a more detailed display of those results in order to have better chances of describing the phenomena and linking it with other external or internal factors that could have impacted those specific changes. On the other hand, the quantitative research method fails to provide an insightful analysis of the phenomena as it does not make an analysis of the root causes but simply investigates the conditions and results that are retrieved from the data collection process (Shields and Rangarjan, 2013). The inability to provide an insightful understanding of the causes and effects that a specific phenomena has, the quantitative method is useful mainly for creating a platform where the situation is observed and the evaluation of a specific phenomena and other related factors can be displayed and analyzed statistically.

The qualitative method is quite the opposite of the quantitative method in the sense that it addresses almost all of the issues and problems faced by the second. In this context, this method focuses mostly on gaining an in-depth understanding of the phenomena and the reasons or factors that cause specific phenomena to occur in the way that they are (Deniz et al, 2005). The most common ways of conducting the qualitative research is mainly through interviews, focus groups and in most of the cases include a process of collecting information from individuals or groups with deep understanding and expertise on the specific phenomena. In this context, the most beneficial aspect of this method of research is the ability to gain in depth understanding of a specific phenomena, its causes and possible solutions (Moriarty, 2011). In other words, the qualitative method does not describe the situation neither measure it, but it provides routes into understanding the issues and the aspects that surround or impact those issues.

This paper uses a descriptive analysis of the performance of the four systemic banks in Greece on a set of indicators during the period 2006 – 2015. More specifically, the descriptive analysis focuses on the following indicators; deposits, loans, total assets, non performing loans, Return on Investment, Return on Assets. The analysis will be focused on bringing a broad picture of the most important financial data in order to firstly understand the performance of the four systemic banks in Greece before and post crisis. After that, the analysis will be focused on incorporating the performance of the banks with the actual actions taken by these institutions and the EU financial institutions on behalf of the recapitalization actions that aimed to bring stability to the system and have a constructive contribution to the stabilization and recovery of the economy. In this context, the analysis will focus on incorporating the financial performance of the banks with the recapitalization and restructuring efforts and evaluating the impact of those measures.

Limitations

Since this research uses the quantitative research method for studying the effects of the recapitalization measures on the banking system in Greece, the most important limitation would be the lack of quantitative information for backing up those findings. In this context, the use of the two methods in combination could have contributed to a more complete analysis that would be able not only to identify the patterns on the Greek banking but also to gain a better understanding of the impact of each aspect of recapitalization on the performance and stability of the banking system. The collection of information from experts on the banking sector and on the Greek system more specifically proved to be a difficult process that required time and financial resources for being able to get in touch with experts of the caliber that could give a distinctive contribution to this research. Having said, that the two main factors impeding the collection of qualitative information are the time and cost of the process that have been influential throughout the process.

The research requires for a set of detailed data to be collected for a specific timeline and for the types of financial indicators that have been mentioned in the earlier sections. In this context, the amount of data required extensive time spent on reviewing financial statements of the four systemic banks in order to collect all the necessary information out of a high volume of information that the banks include on the statements and press releases. So, more time available would have contributed to a more detailed analysis of the data for more indicators and more detailed quarter by quarter results. In this context, the more detailed data could provide an opportunity to have highly detailed information that would impact the overall quality of the research.

Hypotheses

During the analysis of the performance of the four systemic banks, there will be several hypotheses tested in order to draw conclusions regarding the impact of recapitalization and merging processes on the sector. Each hypothesis will focus on specific type of indicator of the bank's performance and the descriptive analysis will be used for drawing conclusions regarding the impact that the changes on the banking structure and financial inflow had on each one of the indicators. More specifically, the following hypotheses will be tested;

The first hypothesis will focus on the deposits by both the individuals and the businesses. In this context, it needs to be analyzed the relationship between the financial backing of the banks by the international institutions through recapitalization efforts and the ability of the banks to attract more deposits. The relationship seems to have a relation of trust more than anything else as the banking system in Greece has faced numerous times to have mass money withdrawal from the deposits in Greek banks. In this context, the recapitalization of banks aimed to improve the performance of them into the market and to clear the danger of any scenarios where the liquidity would be insufficient for supporting the customer demand. In this context, it is important to see if the recapitalization efforts have had any significant impact on the market as the increased trust towards them could be directly linked with higher deposits. In this context, the first hypothesis is formulated as follows.

H1: The recapitalization practices and liquidity inflow over the past decade have increased the consumers' trust and their deposits.

Secondly, the banks' equity represents one of the most important indicators regarding the net value of the entity to the investors. This indicator could be easily related to the overall performance of the banks as an improvement on the equity could have a significant boost to the ability of them to withstand any possible threat or failure to maintain the normal performance. The recapitalization and merge activities can have a direct impact on the equity of a bank. More specifically, the recapitalization and restructuring of the banks are intended for the purpose of increasing their overall performance on the market. In this context, the improved performance could impact the equity evaluation of the banks. In addition, the merger and acquisition strategies could have significant impact on the equity as the shift of the assets and other financial indicators can be influential into the equity patterns.

H2: Merger and Acquisition and recapitalization efforts impact directly the banks' equity

The third hypothesis focuses on the non performing loans and their impact on the banking operations. In this context, one should understand that the problem of NPLs has been an increasingly important issue as the percentage of the loans that are treated unsuccessfully has been growing continuously since the burst of the financial crisis. In this context, it is useful to gain a better understanding of any potential impact of the strategies followed by the banking system and the international banking institutions to address the issue of NPLs.

H3: Strategies followed by the banking system over the past ten years have been efficient into addressing the ever increasing rates of NPLs.

The profitability of the banks during the period of crisis over the past ten years has been a major issue especially for the shareholders but for the stability of the system in general. A major factor that has caused the shift on the profitability rate is related to the reduced performance on the market. Having said that, a major activity of the banks is the loan activity to the customers. Loans are integral to the banks' activities as they can be the main source of income and profit for the banks mainly due to the high rates of interest that they charge to the customers for providing a specific amount of money that is due to be paid over a strictly specified period of time. In this context, the following hypothesis will focus on the performance of the banks on the section of the loans to both individuals and businesses. The revitalization and improvement of loan rates could be either a sign of an improved performance of the banks and of the economy or simply related to the reduction of barriers to loan approvals.

H4: The improvement of the banking environment has caused a positive impact into the loan performance of the banks.

The four hypotheses that will be analyzed and tested are as it follows:

NR	HYPOTHESES
H1	The recapitalization practices and liquidity inflow over the past decade have increased the consumers' trust and their deposits.
H2	Merger and Acquisition and recapitalization efforts impact directly the banks' equity
H3	Strategies followed by the banking system over the past ten years have been efficient into addressing the ever increasing rates of NPLs.
H4	The improvement of the banking environment has caused a positive impact into the loan performance of the banks

Table 3, Hypotheses

Analysis and discussion

This chapter will focus exclusively on the analysis and testing of the four hypotheses that were stated on the chapter above. For this reason, the chapter will firstly display the results of the financial performance on several aspects for each one of the banks for a timeline of a decade on a set of indicators. More specifically, the analysis will focus on aspects such as the deposits, equity, return on equity, return on assets, loans and NPLs. The first section of the analysis of the performance of the four systemic banks in Greece on the above mentioned indicators will be useful for analyzing the implications and impact that the recapitalization and bank restructuring has had on the banking sector over the past few years. The discussion section will focus on the evaluation of the impact that the efforts of the banks and of the national and international financial institutions have had on improving the stability of the overall system with the aim of boosting the economy on the long term.

H1: The recapitalization practices and liquidity inflow over the past decade have increased the consumers' trust and their deposits.

The deposit by the customers in the Greek banks has been closely related to the actual and perceived economical and fiscal stability. This has been more prominent especially after the financial crisis and the potential possibilities that the system had chances of colliding. In this scenario, the Greek customers have the right to feel that their deposits could be threatened by the events on the national scale. In this context, the maintenance of trust and positive image of the banks and their ability to provide a safe environment for the savings is the key into strengthening this aspect. The financial crisis as well as numerous micro crises of the society and government during the years of the crisis has been very influential into damaging that trusts that the Greek banks possessed before the things would go wrong (Bank of Greece, 2014). More specifically, the debt restructuring process, riots of the citizens, continuous political and governmental shifts etc, are some of the most important aspects that could have impacted the deposit rates of Greek customers on the Greek banking system. In addition, it could be argued that any change on the deposits rates can be associated simply with interest rates that are offered or the liquidity available to the customers.

The deposits of the customers may well be shrinking at the cases when they are not satisfied with the safety levels of the banking environment in order to deposit all the individual savings. This was the case of the 2009 publication of the first fall of the deposits in all of the four systemic banks. The tables below illustrate the performance of those banks and we can notice a rough decline of the deposits on the year 2009 mainly because of the financial crisis and the uncertainties that were surrounding the Greek economy at that time (Christopoulos et al, 2002). From 2009 until 2015, the deposits have been changing continuously as those changes have been impacted by external and internal factors.

One of the main aims of the recapitalization strategies has been to bring stability to the banking system and one of the means to reach that is by improving the trust back to the customers. In this context, the injection of more liquidity as for allowing the banks to operate normally is an initial purpose of such strategies. The relationship between the recapitalization activities and the increased deposits could be analyzed mainly because the increased deposit could be boosted by an increased stability of the overall environment. In this context, the data on the following tables show very little significance of the correlation between the increase on the deposits and the timeline in which the capitalization action were taken and implemented. On the other hand, there is a significant growth of the deposits on almost all of the four systemic banks during the 2012 year. This year corresponds to the initial implementation of the actions while the second similar one did not have the same impact a couple of years later. In my opinion, the reason why the first capitalization stage had a more significant impact on this indicator could be related to the high expectations of the markets and customers from this strategy. In the second phase or attempt, the enthusiasm was gone as the reality had double checked the success of the first recapitalization effort.

Period	1H 2006	1 Year	1H 2007	1 Year	1H 2008	2009	1Year 09	1 H 2010	1H 2011	1H 2012	1 Year	1H 2013	1 Year	1H 2014	1 Year	1H 2015	1 Year	Standard deviation	Min	Max

		06		07							12		13		14		15			
NBG	46.9	46.8	46.7	46.4	46.2	39.4	38.8	38.6	30.8	31.3	34.5	34.2	32.1	32.8	35.9	34.8	34.7	5.969	47	31

Table 4, Deposits NBG bank

Period	1H 2006	1 Year 06	1H 2007	1 Year 07	1H 2008	2009	1Year 09	1 H 2010	1H 2011	1H 2012	1 Year 12	1H 2013	1 Year 13	1H 2014	1 Year 14	1H 2015	1 Year 15	Standard deviation	Min	Max
EURO BANK	42.1	42	42.3	42.5	42.1	38.5	36.2	34.5	30.1	30	30.6	31.2	32.5	32.7	32.9	31.1	31.2	4.813	42.5	30.1

Table 5, Deposits EUROBANK

Period	1H 2006	1 Year 06	1H 2007	1 Year 07	1H 2008	2009	1Year 09	1 H 2010	1H 2011	1H 2012	1 Year 12	1H 2013	1 Year 13	1H 2014	1 Year 14	1H 2015	1 Year 15	Standard deviation	Min	Max
PIREAUS	22.3	22.6	24.4	26.5	30	30	30.2	29.8	26.3	28	30.1	31.7	31.9	32.1	31.5	30	34	3.612	36	22

Table 6, Deposits Piraeus bank

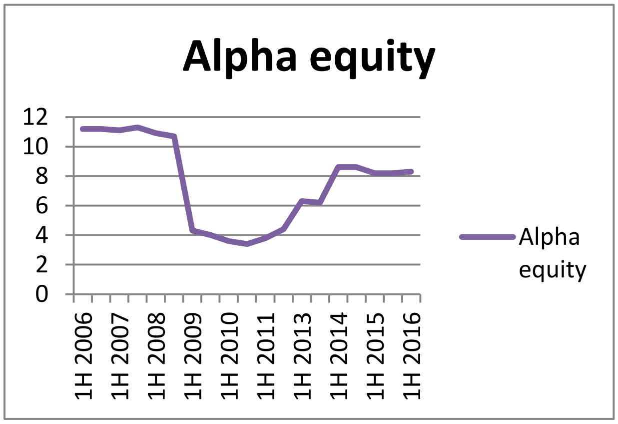
In this context, the growth of the deposits during recapitalization period seems to be attributed to the process itself. In this context, the recapitalization process was met with a lot of publicity which was maybe what was needed in a period when the public trust on the banking system was very low (Halkos and Salamouris, 2004). The potential improvement of the banks' image through the intervention of the most important international institutions could have been very important especially since the system had been constantly under threat of continuously having reduced deposits. Up to that point, the major part of the fall of the deposits could be attributed to the withdrawals from the customers who were seeking for safer options to save their money. The reduction of the deposits came mostly as a combination of the fears of the customers who would withdraw their savings and the inability of the people to save in the same rates as they could have been able before the crisis with a more dynamic and productive economy.

The deposits would experience yet another shock during the 2015' while this time it was the political factors that caused the storm (Thanou and Daskalakis, 2015). The elections were won by the leftist party of Syriza and the storm that was caused after their promises for a demolition of the current agreements with the "Troika" and the negotiation of new ones. The danger of the country being unable to meet the coming payment installments which could cause the eventual bankruptcy of the country or just the exit from the EU were fears of a magnitude enough as to cause a repetition of the deposit withdrawal scenarios. In this context, the first half of 2015 was a period that caused additional problems to operations of the banks while there could have been caused an increase of the liquidity from what was analyzed before. The deposits though, show a steady rate during the second half of 2015. This is due to the imposition of capital controls, which was a necessary measure, or the only solution that would allow the Greek banks to keep their depositors from removing their deposits.

The deposits have had several variations during the past decade. While the recapitalization and restructuring efforts have had certain impact on improving the deposit rates, the bigger impact has been made by the external environment like political system and the perceived fears of the country going on the wrong direction. In this context, the hypothesis is partially accepted as the recapitalization measures are not the primary cause for the shift of the deposits during the past decade while the economical and political stability have been more influential.

H2: Merger and Acquisition and recapitalization efforts impact directly the banks' equity

The equity of the banks is a crucial indicator regarding the investment that is performed by the shareholders and investors and useful for calculating the performance of the overall assets into turning such investments into sustainable profit. The decline of the performance of the banks during the period of the crisis has had a direct impact on the equity value of the four systemic banks. The graphs below illustrate the fluctuations over the years.



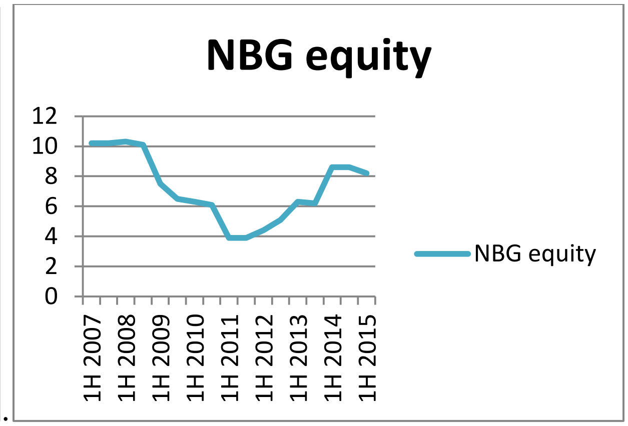
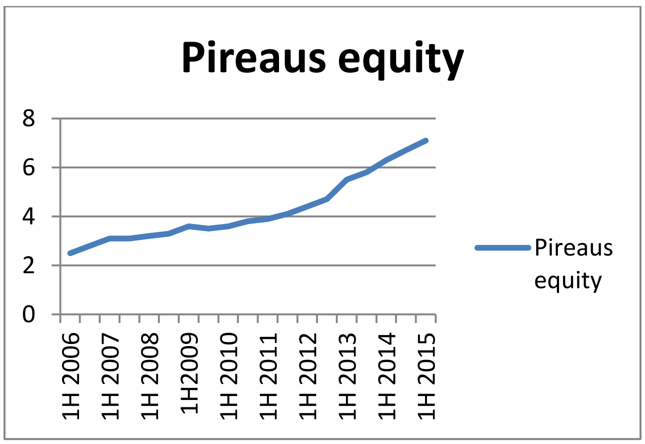


Figure 1, Equity Alpha bank **Figure 2, Equity NBG**

bank



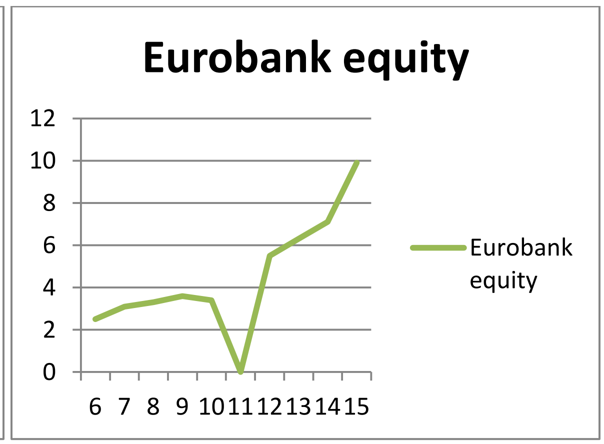


Figure 3, Equity Piraeus **Figure 4, Equity**

Eurobank

The results regarding the equity values of the four systemic banks (see fig, 1, 2, 3, 4) show that the improvement of the equity from the immediate drop during the dawn of the crisis start at similar times with the implementation of the first recapitalization efforts. The injection of liquidity on the four banks seems to have an immediate effect on improving the bank equity while the most important aspect is related to the following years; The graphs show that each of the four banks was able to maintain a gradual growth which shows the efficiency of those recapitalization efforts on improving the position of the banks and their ability to build on such assists. The sustainable use of those funds and the reformation and restructuring of the banks have allowed them to maintain the momentum created by the liquidity injection and use it as a foundation on improving over the next recapitalization funds. In this case, we do not see any other fluctuation over the equity while it maintains a steady growth rate and the values are never lost ever since.

Furthermore, the table below illustrates in a more detailed manner the data retrieved from gurufocus.com (2016) on the Return on Equity and on Assets. The ROE for the banks has been heavily impacted at the period of recapitalization when the private investors were contribution thus increasing the liquidity on the system. In the same time, such investments required for the overall performance to increase in order for the ratio between the investment and turnover to remain stable or increase. As it is shown on the table below, this wasn't the case for any of the four systemic banks during the first wave of recapitalization efforts. The injection of the liquidity from external sources required an immediate improvement of the bank's performance on the market. The ROE and ROA for the specific period plumed to the lowest negative figures as the banks failed to improve their operations and increase the revenues on a substantial level. These patterns are repeated on two different occasions and the timeline coincides with the two recapitalization efforts where the liquidity was added into the system on each of the four systemic banks. This shows that the injection of the liquidity failed to deliver immediate impact on the performance of the banks or at least to provide strong figures that will help the ROE and ROA to maintain stable rates. This is an understandable pattern as the recapitalization funds did not increase the capacities of the banks on reaching more customers but it just served as a necessary tool for having the vital liquidity that allows them to be functional. So, the lack of the immediate effect of the liquidity injections on the performance is being rightly expressed on the table below.

PIREAUS

	Dec06	Dec07	Dec08	Dec09	Dec10	Dec11	Dec12	Dec13	Dec14	Dec15
ROA	**1.67**	**1.75**	**0.63**	**0.39**	**-0.03**	**-12.35**	**-0.83**	**3.22**	**-2.05**	**-2.01**

	Dec06	Dec07	Dec08	Dec09	Dec10	Dec11	Dec12	Dec13	Dec14	Dec15
ROE	**30.46**	**27.35**	**10.17**	**6.58**	**-0.59**	**-1,232.06**	**0.00**	**84.32**	**-23.70**	**-20.95**

ALPHA

	Dec06	Dec07	Dec08	Dec09	Dec10	Dec11	Dec12	Dec13	Dec14	Dec15
ROA	**1.24**	**1.70**	**0.82**	**0.54**	**0.12**	**-6.03**	**-1.84**	**4.52**	**-0.43**	**-1.81**

	Dec06	Dec07	Dec08	Dec09	Dec10	Dec11	Dec12	Dec13	Dec14	Dec15
ROE	**19.83**	**25.72**	**13.59**	**6.08**	**0.45**	**-105.57**	**-100.35**	**64.82**	**-3.90**	**-15.48**

EUROBANK

	Dec06	Dec07	Dec08	Dec09	Dec10	Dec11	Dec12	Dec13	Dec14	Dec15
ROE	**23.7**	**25.72**	**13.59**	**6.08**	**0.45**	**-105.57**	**-100.35**	**64.82**	**-3.90**	**-15.48**

Table 7, ROE and ROA of four banks

The impact of the recapitalization on the equity capital of the banks could be easily identified as the equity rates had increased simultaneously with the implementation of the recapitalization measures. In addition, the ROE and ROA have been showing very unstable figures but that comes as a result of the sudden injection of liquidity with no direct effect on profitability or performance of the banks. The second hypothesis is *accepted* as the equity and return on equity have been influenced heavily by the recapitalization strategies and have seen a major improvement since the crisis.

H3: Strategies followed by the banking system over the past ten years have been efficient into addressing the ever increasing rates of NPLs.

The NPL-s poses the primary threat to the loaning system of the banks and to the relationship with the customers. In this context, the banks have a well defined system that helps to evaluate each potential loaner and their ability to pay back according to pre determined conditions. There is a common understanding regarding the deficiencies of the appropriate measures taken by the banks in Greece on the process of granting the loans to their customers (Louiz et a, 2012). The inefficient analysis of the customers and soft barriers for the unqualified customers had led the Greek banking system to have a relative high percentage of those loans that did not meet the specific payback periods. The problem of the NPL-s has been under the 5% rate for several years as the strong economic growth made it possible for the customers to be able to pay them back on time and also receive additional ones. The most significant problem on this area rose with the deterioration of the economic and financial situation in the Greek economy. The crisis caused a set of negative issues to the economy and the society such as; high unemployment, decrease of competitiveness of the companies, lack of liquidity, decrease of the incomes etc. All the factors can have direct effect on the ability of the customers to the meet the projected budgets that would allow them to comply with the payment schedules of their respective loans. In this context, the immediate rise of the NPLs could be directly attributed to the external factors such as economy and the performance of the businesses in the country.

The results of the NPLs over the past decade for all of the four systemic banks in Greece show that this problem remains the most difficult challenge for the banking system. More specifically, the period until 2009 is characterized by rates of below 10% of the loans that were not able to perform accordingly. Such figures could be linked with the favorable business and economical climate of the country where the positive performance allowed the individuals and businesses to generate the projected incomes enabling them to comply with the loan repayments. In addition, during those years the low barriers for getting additional loans (Massourakis, 2010) could have impacted the ability of the customers to renew the loans in order to maintain the process running while any problem with the loans would be covered by such practices.

The tides changed after the initial of the financial crisis when the banks started implying stricter strategies on allocating new loans in order to prevent any NPLs from occurring (Louiz et al, 2012). The inability of many customers to comply with the loan requirements coupled with the adverse economical and business climate caused a massive stress on the ability of individual and private customers to comply with the payment of their loans. The NPLs are qualified as a primary challenge for the banking system in Greece mainly because the strategies followed by them and the incorporation of the recapitalization and restructuring strategies haven't been able to produce any significant solution. In this context, the graphs below illustrate the continuous growth of the percentage of the NPLs on the systemic banks while there have been continuous attempts to implement strategies that would ease this problem. It needs to be noted that the NPLs have not recorded any reduction over the past decade which is a worrying factor that could have important implications for the performance of the banks.

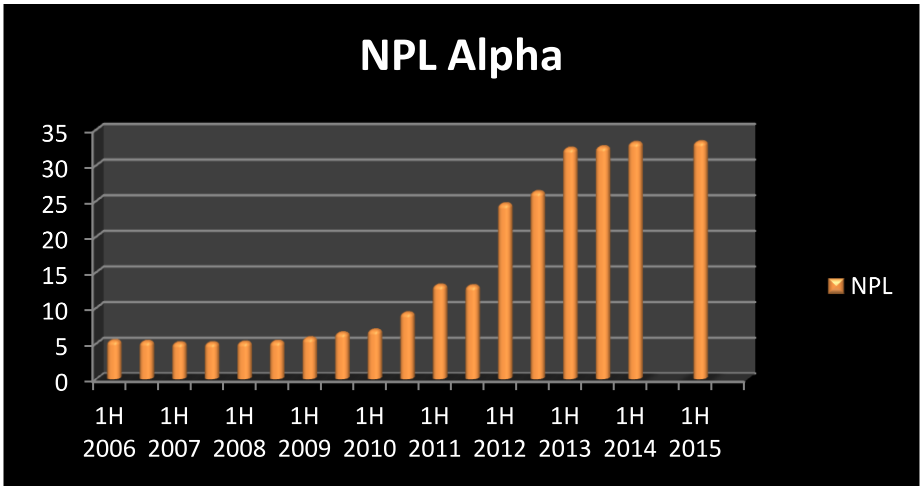


Table 8, Alpha bank NPL

An important aspect on the loan performance is that the NPLs have increased dramatically after 2012 which is a period that consists with the implementation of new measures and strategies. The most important event on the banking system in Greece during those years has been the implementation of new strategies that aim to solidify their position into the market and to synchronize with the recapitalization requirements as set by the foreign investors and the EU financial institutions involved in this process. In this context, the impact of the new strategies of banking consolidation seems to have an adverse impact on the NPLs and their reduction.

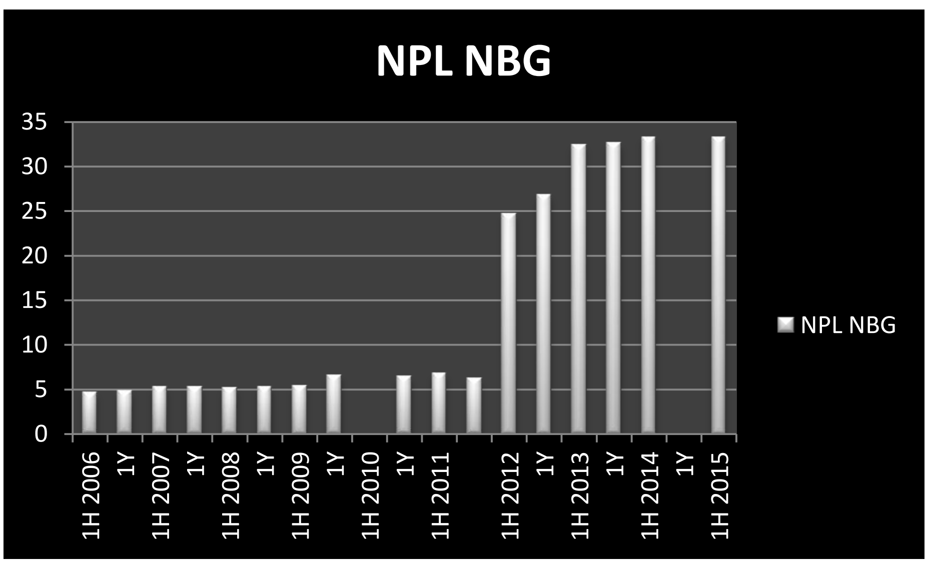


Table 9, NBG NPL

The results show that there is not link whatsoever between the reduction of the NPLs and the efforts of the banks through different strategies nor the efforts of the governments and international financial institutions through recapitalization and other backing strategies. The third hypothesis is *rejected* on the basis that there were no signs of the NPLs being reduced while there have been continuous efforts on addressing this issue.

H4: The improvement of the banking environment has caused a positive impact into the loan performance of the banks.

The loans are one of the most vital aspects of the banking system. They are the obvious answer to the deposits and the source of income for the banks and for the customers who deposits money on savings accounts (Bollard, 2015). In this context, the improvement of the loan rates could be directly related to the ability of the banks to operate at the best of their potential and maximize the use of the available assets. At this point it needs to be noted that during the decade before the crisis, the Greek banking system was putting plenty of efforts on maximizing the number of loans granted to the customers every year. These efforts caused the financial background check of the customers to be softer and the loans were often granted to individuals or businesses that did not provide significant proof of their ability to pay the installments back.

In this context, the loaning performance of the four systemic banks can be affected by two main factors; the increased barriers for granting a loan and the performance of the economy in general that can increase or decrease the ability of the businesses and individuals for qualifying for a loan.

The table below shows the levels of loans granted by Eurobank to both individuals and businesses for almost a decade. The results show that the loans to individuals have had a more varying performance as the growth of this indicator goes on and maintains its values after the burst of the crisis while the first signs of decline are obvious around 2010. Although the crisis firstly impacted the economy almost a year ago, the loans did not show a significant decrease until the following two years. This is mainly due to the existing loans that kept a high portion of the loan portfolio high but also it needs to be noted the fact that most probably there were no immediate measures taken to toughen the process of loan granting. On the other hand, the loans to businesses have been more consistent although there are noticed significant deteriorating values about the loan performance.

	1H 2006	1H 2007	1H 2008	2009	1H 2010	1H 2011	1H 2012	1H 2013	1H 2014	1H 2015
Loans to individuals	14.2	15.3	16.2	17.1	16.4	13.1	12	6.4	6.5	6.7
Loans to businesses	16.4	19.9	27.6	28.3	27.6	27.2	27.3	27	26.8	27.3

Table 10, Eurobank loans individuals and businesses

Similar results were retrieved from the other banks where the minimization of the loan activities has been more obvious on the individual loans (see table 11 and 12). In all of the four banks, it can be noticed that the consolidation of the recapitalization measures had an impact on the loans as they shrank for the years from 2012 and beyond. This could be explained by an immediate need for the banks to consolidate their loan activities and reduce the ever-growing problem of NPLs. During those years we can identify a more stabilized environment of loans as the old loans had terminated and the net result represents the loans that are mostly granted during the crisis under a stricter environment.

	1H 2006	1Y	1H 2007	1Y	1H 2008	1Y	1H 2009	1Y	1H 2010	1Y	1H 2011	1H 2012	1Y	1H 2013	1Y	1H 2014	1Y	1H 2015	1Y	1H 2016
Loans to individuals	24.6	24.8	25.1	25.0	24.8	24.2	20.4	19.9	11.6	12.1	12.0	12.0	11.2	6.2	6.1	5.8	5.9	5.2	5.2	4.1
Loans to businesses	31.2	31.4	31.4	31.6	31.0	30.7	30.5	30.2	29.3	28.5	27.2	27.3	27.0	26.8	26.9	24.5	26.5	27.0	26.8	26.3

Table 11, NBG loans individuals and businesses

	1H 2006	1H 2007	1H 2008	1H 2009	1H 2010	1H 2011	1H 2012	1H 2013	1H 2014
Loans to individuals	14.2	15.3	16.2	18.4	12.3	13.1	8.7	6.4	6.6
loans to businesses	16.4	19.9	27.6	29.3	27.2	27.1	27.3	27.4	26.8

Table 12, Alpha loans individuals and businesses

The effects of the strategies followed during the continuous efforts of the banks to consolidate the performance of the loans have been effective at a certain degree. Taking into account that the economical situation over the past decade has been very difficult, the maintaining of the existing loan performance could have been seen as an impossible challenge. Although, the rates have been more stable on the business loans, the individual ones have been experiencing reductions. The strategies followed by the banks aimed mostly to impede the granting of the loans to the unqualified individuals or businesses which has caused a further reduction of the loans which is a positive aspect that addresses the ongoing issues of NPLs. In this context, the fourth hypothesis *is accepted* in the sense that the loans have been reduced but the primary aim of such strategies has not been to increase them uncontrollably but to reform the process that would increase the quality of those loans.

NR	HYPOTHESES	
H1	The recapitalization practices and liquidity inflow over the past decade have increased the consumers' trust and their deposits.	Partially accepted
H2	Merger and acquisition and recapitalization efforts impact directly the banks' equity	Accepted
H3	Strategies followed by the banking system over the past ten years have been efficient into addressing the ever increasing rates of NPLs.	Rejected
H4	The improvement of the banking environment has caused a positive impact into the loan performance of the banks	Accepted

Table 13, Hypotheses results

The continuous assessments of the banking system in Greece over the past decade allowed the responsible parties to draw strategies and identify the liquidity and restructuring needs almost on a yearly basis since the first allocation of funds by the end 2012'. The continuous assessment has almost always found the need for extra liquidity to be injected into the four systemic banks even after a series of asset merge and acquisitions which has put to question the overall success of such efforts. Being under pressure from the customers on withdrawing their deposits, these strategies have acted as an influential factor into restoring the trust of them on the Greek banking system. In this context, the deposits have been assisted by these strategies through the consolidation of their financial situation and improvement of their image in from of the market. On the other hand, the image and trust towards the banks have been influenced greatly by other external factors such as political and economical situation over the past years. These factors have caused fluctuations on the deposits levels and somehow have undermined the real effects on the system.

The equity and assets of the banks saw an immediate reduction during the first years of the financial crisis due to the adverse conditions. In this aspect the shift of assets, acquisitions and the strategies of recapitalization have played a crucial role into putting them back on track. The equity rates of the four systemic banks are the very few indicators that have seen steady growth since the start of the recapitalization strategies while they continue to strengthen on very promising rates. The added liquidity impacted directly the equity of the banks as they were able t operate normally and respond to the customer demands for such services.

The loans from the Greek banking system have been the Achilles tendon in the sense that they have been characterized by continuous increase of the non performing ones. In the same time the loan performance has dropped for the past years in attempts to improve the quality of the loans and reject the potential non performing ones. Even in such scenario, the NPLs do not seem to slow down as the results showed that they have been increasing ever since the financial crisis was obvious and having an impact on all of the banks operations. Further assessment and new strategies are required in the context of treating or preventing the NPLs as the figures have reached staggering rates and a continuity of such rates could see the banking system to deal with nearly 50% of the loan being unable to perform conform the initial agreements.

Conclusion

The banking system is one of the most fundamental factors of a society's stability and well being. The turbulent financial period that Greece has experienced during the past decade has been constantly threatening the ability of government to pay the public debt and the banking system ability to supply to their customers the required liquidity. The failure to comply with any of the above two would mean an end to the current political and economic system for the country. In this context, the banking system, Greek government and the foreign financial institutions devised a strategy that aimed to put the banking system into a consolidated condition in order to operate in a sustainable and effective manner.

This thesis focused on the impact of those strategies on different aspects of the Greek banking system's performance. The first chapter was concentrated on reviewing the background of the study and analyzing previous findings on the matter. The second chapter involved the analysis of the methodology with the advantages and disadvantages of each one of those methods. In addition, that chapter focused also on the types of information and the type of analysis that would provide better results for the analysis. Also, the review of the four hypotheses was conducted as well as the analysis of the potential limitations that would damage the quality of the results.

The research consisted on a descriptive analysis of some of the most important indicators of the banks' performance; the indicators used consisted on the deposit rates, banks' equity, ROE, ROA, loans and NPLs. The analysis was focused during the past decade prior and post crisis in order to determine the effects of the strategies on those indicators in response to the crisis and to the adverse conditions.

The results showed that the recapitalization and asset shift strategies had a very influential impact on several indicators but these effects were often diminished by the adverse economic and political conditions. However, there were clear indicators regarding the positive impact of recapitalization and acquisition on the increased equity performance of the banks and the consolidation of these indicators. In addition, the deposits were maintained in consolidated levels if taken into account that there have been constant fears from the customers that the system could collapse and their saving would be endangered. In this scenario the deposits held a respectable position allowing the banks to maintain a good grip. On the other hand, none of the strategies implemented during these years could put a stop to the ever increasing NPLs.

Although, the banks have been implementing stricter regulations on granting new loans, they haven't been able to manage the NPLs. The hypothesis testing is summed up in the table below;

NR	HYPOTHESES	
H1	The recapitalization practices and liquidity inflow over the past decade have increased the consumers' trust and their deposits.	Partially accepted
H2	Merger and acquisition and recapitalization efforts impact directly the banks' equity	Accepted
H3	Strategies followed by the banking system over the past ten years have been efficient into addressing the ever increasing rates of NPLs.	Rejected
H4	The improvement of the banking environment has caused a positive impact into the loan performance of the banks	Accepted

Looking at the whole picture, there are very encouraging signs over the stability of the banking system as the liquidity needs from external sources have been reduced on both normal and adverse scenarios. The implementation of these strategies has caused stability on the banking system but there are plenty of challenges that need to be further addressed in the coming years. Firstly, the NPLs provide the biggest threat to the stability of the finances and of the operations of the banking system and more specifically of the four systemic banks that were analyzed in this research. The reduction of potential NPLs before they are granted is a successful strategy but it has proven not enough to stop the spread of the percentage rate. In this case, a forecast of the economical and political changes needs to be kept in mind in order to evaluate if the new loans could be affected.

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Appendices

Data regarding equity, loans to individuals, businesses, equity, deposits, ROE, ROA, NPLs for Eurobank, Alpha Bank, NBG and Piraeus.

Alpha

	1H 2006	1Y 2006	1H 2007	1Y 2007	1H 2008	1Y 2008	1H2009	1Y 2009	1H 2010	1Y 2010	1H 2011	1Y 2011	1H 2012	1Y 2012	1H 2013	1Y 2013	1H 2014	1Y 2014	1H 2015
Loans to individuals	14.2	14.6	15.3	15.8	16.2	17.5	18.4	15.6	Loans to individuals 11.6	12.3	13.1	12.8	12 loans to individuals	8.7	6.4	6.4	6.5	6.6	6.7
loans to businesses	16.4	16.8	19.9	20.4	27.6	28.1	29.3	28.3	27.2	27.1	27.2	27.1	27.3	27.3	27.4	27.1	26.8	26.9	27.3
Total assets	**47.8**	**53.5**	**61.3**	**69.5**	**82.2**	**83.3**	**84.4**	**85.6**	**87**	**84.2**	**81.9**	**81.1**	80.5 total assets	80.3	80.1	78.4	75.2	74.4	73.5
Net loans	**34.2**	**34.4**	**35.2**	**38.8**	**43.8**	**44.1**	**47**	**46**	**38**	**38.5**	**40.1**	**45.4**	48.3	46.5	34.1	34	33.3	33.6	34
Deposits	21,4	23.6	27.1	28.5	30	30.1	30.2	30.3	31	30	27	28.5	Deposits 30.8	30.7	30.6	30.8	31.2	31.7	32.5
Equity	2.5	2.8	3.1	3.1	3.2	3.3	3.6	3.5	3.6	3.8	3.9	4.1	Equity 4.4	4.7	5.5	5.8	6.3	6.7	7.1
NPLs	3		2.57		2.5		4.1		6.7	8.6	10.1	25.3	53.4	53.2	48.6	44.5	34.8	34.8	35 NPL

Eurobank

1H 2006	1H 2007	1H 2008	1H 2010	1H 2011
14.2	15.3	16.2	18.4 Loans to individuals 11.6	13.1
16.4	19.9	27.6	29.3 Loans to business 27.2	27.2
47.8	**61.3**	**82.2**	**84.4 Total assets 87.1 billion**	**81.9**
34.2	**35.2**	**43.8**	**47 Net loans 38**	**40.1**
21,4	27.1	30	30.2 Deposits 31	27
2.5	3.1		3.6 Equity 3.4 Billion	
3	2.57	2.5	4.1 NPL 6.7	10.1
23.7	25.1	20.1	7.3 ROE 0.8	0.9
1.43	1.47	1.2	0.24 ROA	0.2

1H 2012	1H 2013	1H 2014	1H 2015	1H 2016
12 loans to individ	6.4	6.5	6.7	
27.3	27.4	26.8	27.3	
80.5 total assets	80.1	75.2	73.5	
Net loans 48.3	34.1	33.3	34	
Deposits 30.8	30.6	31.2	32.5	
Equity 4.4	5.5	6.3	7.1	9.9
53.4		34.8	35 NPL	36.6

PIREAUS

1H 2006		1H 2007		1H 2008		1H 2010		1H 2011	
4.5	4.3	3.6	4.3	5	7.6	11.7 Loans to individuals 11.8	11.8	11.2	
32.2	26.7	20.7	25.7	31.3	29.8	27.6 Loans to business 27.9	27.9	27.2	
19.2 25.3	25.3	37.3	46.4	51.5		54.2 Total assets 56.7 billion	56.7	57.1	
16.6	22.8	30.5	32.3	36.2		38.3 Net loans 38.5	38.5	34.4	
22.3		24.4	26.5	30		30.2 Deposits 29.8	29.8	26.3	
2.6	3.2	3.3	3.2	3.4	3.4	3.6 Equity	3.4	3.3	
1.8		2.1		2		4.4 NPL 6%		9.6%	
26.4		26.6		18.3		ROE			
		1.3		1.2		ROA			

2014, no ELA funding

1H 2012		1H 2013		1H 2014		1H 2015		1H 2016
12 loans to individ		24 mil		23.8		22.7		
27.3		43 mil		42.2		41.3		
67.4 total assets		85.7		89.4		87.5		
Net loans 39.4		62		58.7				
Deposits 28		31.7		32.1		30.1 1Y 36 1H		
Equity 4.4		8.4		9.4		10		9.9
53.4		33.4 1Y 36.6		34.3		40.5 1H 38.5 1Y		36.6

	1H2006	1H2007	1H2008	1H2009	1Y											
Lona to ind						18.4 11.6	11,6		12 loans to individ	4,2	4,1	3,8	3,9	4,2	4,2	4,1
business		19,6	19,8	18,4	18,3	29.3 Loans to business 27.2	27,2		27,3	26,8	26,9	24,5	26,5	27	26,8	26,3
total assets				28,4	28,5	84.4 Total assets 87.1 billion	87,1		80.5 total assets	84,1	83,7	81,2		77,1	76,5	73,5
net loans			66,7	67,3		47 Net loans 38	38		Net loans 48.3	39,2	39,4	37,8	37,9	39,7	39,7	39,9
deposits			33,6	35,2	39,4	30.2 Deposits 31	31		Deposits 30.8	34,5	34,2	32,1	32,8	35,9	35,8	35,7
equity						3,6	3,4	3,8	4,4	6,3	6,2	8,8	8,6	8,2	8,2	8,3
NPL	11,2	11,1	10,9	4,3	4	6.9 NPL 9.3	9,3	13,2	24,6	32,4	32,6	33,2		33,3		
ROE	5,4	5,1	5,2			6.9 ROE -4	-4	-18								
ROA	16,8	18,9	10,13			0.12 ROA		-6	t -1.8 -2.5	4,5		-0,43		-1,8		

1H2010	1Y	1H2011		1H2012	1Y	1H2013	1Y	1H2014	1Y	1H2015	1Y
18,3	11,6	11,8	11,1	11,6	11,4	4,2	4,1	3,8	3,9	4,2	4,2
29.3 Loans to business 27.2	27,2	27,1	27,1	27,3	27,1	26,8	26,9	24,5	26,5	27	26,8
96,3	90,1	87,3		80.5 total assets	82,1	84,1	83,7	81,2		77,1	76,5
75.2 Net loans 38	**51,2**	**49,3**	**49,1**	Net loans 48.3	43,2	39,2	39,4	37,8	**37,9**	**39,7**	39,7
Deposits 46.4	50,2	72,1		Deposits 30.8	32,1	34,5	34,2	32,1	**32,8**	**35,9**	35,8
6,3	6,1	3,9	3,9	4,4	5,1	6,3	6,2	8,6	8,6	8,2	8,2
6.9 9.3	6,4	6,8	6,2	24,6	26,8	32,4	32,6	33,2		33,3	
6.9 ROE -4		13,2		0		0		-99,3		-125	
0.5 ROA -0.3		-846		t -2.5		0,1		-2,2		-7,24	

NBG

1H2010	1Y	1H2011		1H2012	1Y	1H2013	1Y	1H2014	1Y	1H2015	1Y	1H2016
18,3	11,6	11,8	11,1	11,6	11,4	4,2	4,1	3,8	3,9	4,2	4,2	4,1
29.3 Loans to business 27.2	27,2	27,1	27,1	27,3	27,1	26,8	26,9	24,5	26,5	27	26,8	26,3
96,3	90,1	87,3		80.5 total assets	82,1	84,1	83,7	81,2		77,1	76,5	73,5
75.2 Net loans 38	**51,2**	**49,3**	**49,1**	Net loans 48.3	43,2	39,2	39,4	37,8	**37,9**	**39,7**	39,7	39,9
Deposits 46.4	50,2	72,1		Deposits 30.8	32,1	34,5	34,2	32,1	**32,8**	**35,9**	35,8	35,7
6,3	6,1	3,9	3,9	4,4	5,1	6,3	6,2	8,6	8,6	8,2	8,2	8,3
6.9 9.3	6,4	6,8	6,2	24,6	26,8	32,4	32,6	33,2		33,3		
6.9 ROE -4		13,2		0		0		-99,3		-125		
0.5 ROA -0.3		-846		t -2.5		0,1		-2,2		-7,24		