



FEAA

FACULTATEA DE ECONOMIE
ȘI ADMINISTRAREA AFACERILOR

UNIVERSITATEA "AL. I. CUZA" IAȘI

DOCTORAL THESIS SUMMARY

BANK CAPITALIZATION AND THEIR CAPITAL ADEQUACY

Doctoral coordinator:
Prof. univ. dr. Cocriș Vasile

Ph.D. Student:
Witowschi Irina-Raluca
(married Busuioc-Witowschi)

Iași
2013

Contents of the thesis summary

Structure of Thesis	3
Key words	4
Summary of chapters included in this thesis	5
Introduction	5
Chapter 1 Conceptual approaches on bank capital	6
Chapter 2 Changes and trends in the Romanian banking system	9
Chapter 3 Prudential regulations on bank capital	10
Chapter 4 The impact of new regulations on the banking systems	13
Chapter 5 Performance and risk in banking in the context of capital adequacy	15
Conclusions, limitations and perspectives	17
Selected bibliography	18

Structure of Thesis

LIST OF ABBREVIATIONS AND ACRONYMS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

CHAPTER 1 CONCEPTUAL APPROACHES ON BANK CAPITAL

- 1.1. Theoretical guidelines on concept of bank capital
- 1.2. Constituents of regulatory capital
- 1.3. Importance of capital structure in banks
- 1.4. Bank capital structure
 - 1.4.1. Theories of capital structure
 - 1.4.1.1. Irrelevance theory of capital structure
 - 1.4.1.2. The classical theory
 - 1.4.1.3. Static arbitrage theory or „trade-off” theory
 - 1.4.1.4. Teoria finanțării ierarhice sau „pecking order theory”
 - 1.4.1.5. Agent theory
 - 1.4.1.6. Market timing theory
 - 1.4.2. Determinants of capital structure
 - 1.4.2.1. The effects of capital regulation
 - 1.4.2.2. The presence of government guarantees
 - 1.4.2.3. Structure of ownership
 - 1.4.2.4. Results of charter value

CHAPTER 2 CHANGES AND TRENDS IN THE ROMANIAN BANKING SYSTEM

- 2.1. Reform of Romanian banking system in terms of capitalisation
- 2.2. Capital adequacy of the Romanian banking system
- 2.3. Current trends in the Romanian banking system
- 2.4. Characteristics of banks included in this study

CHAPTER 3 PRUDENTIAL REGULATIONS ON BANK CAPITAL

- 3.1. The need for bank capital regulation
- 3.2. The origins of bank capital regulation - Basel I
- 3.3. The opportunity of bank capital regulation through the Basel I Accord
- 3.4. The Basel II Accord
 - 3.4.1. Determination of minimum capital requirements
 - 3.4.1.1. Minimum capital requirements for credit risk
 - 3.4.1.2. Minimum capital requirements for market risk

- 3.4.1.3. Minimum capital requirements for operational risk
 - 3.5. The opportunity of bank capital regulation through the Basel II Accord
 - 3.6. Principles of the new Basel III Accord
 - 3.7. Capital adequacy framework for the European Union
 - 3.8. Implementation of Basel Agreements in Romania
- CHAPTER 4 THE IMPACT OF NEW CAPITAL REGULATIONS ON THE BANKING SYSTEM**

- 4.1. MAG reports
- 4.2. LEI group report
- 4.3. Other studies on new capital rules
- 4.4. Empirical study on the implications of Basel III
 - 4.4.1. Description of the model
 - 4.4.2. The estimates on the analyzed panel
 - 4.4.3. The estimates used at the country level model
 - 4.4.4. Conclusions

CHAPTER 5 PERFORMANCE AND RISK IN BANKING IN THE CONTEXT OF CAPITAL ADEQUACY

- 5.1. Prudential supervision of the banking system
- 5.2. Theoretical approaches to performance
- 5.3. Theoretical approaches of risk
- 5.4. The relationship between capital, risk and profitability
 - 5.4.1. The relationship between capital and risk
 - 5.4.2. The relationship between capital and profitability
 - 5.4.3. The relationship between risk and profitability
 - 5.4.4. The relationship between capital, risk and profitability
- 5.5. Empirical study
 - 5.5.1. Description of the model
 - 5.5.2. Estimation results of the model
 - 5.5.3. The estimates at the country level
 - 5.5.4. Conclusions

CONCLUSIONS, LIMITATIONS AND PERSPECTIVES

REFERENCES

Keywords: bank capital, equity, capitalization, bank capital adequacy, prudential supervision, Basel I, Basel II, Basel III, European Union, bank risk and performance.

Summary of chapters included in this thesis

Considering the research objectives, we established the following thesis structure: introduction, five chapters who treats detailed specific objectives, bibliography and appendices. The thesis concludes with the general conclusions in which I have summarized the main ideas, findings and proposals, limitations and perspectives drawn from the theoretical and practical research.

In the following we make a brief summary of each chapter

Introduction

Theoretical and practical premise of this research theme is reflected in the contradictory findings regarding the regulation of bank capital and its adequacy requirements, in the context of the current economic environment. Given the impact of the banking system has in the whole economy and recent challenges posed by the financial crisis, regulators have adopted new minimum capital requirements that will have the effect of modifying the behavior of banks in order to achieve them.

Although there has been made a series of studies to analyze the impact of capital adequacy to current requirements and implications on behavior of banks, none of these studies is conclusive.

Therefore, the objective of this thesis is to research theoretical and practical aspects of capitalization and capital adequacy of the banking system under the current economic environment and in accordance with regulatory requirements and bank supervision on bank capital.

To achieve the stated objective, the paper aims at the following specific objectives:

- deepening the concepts of capital, capital adequacy and capitalization;
- analyze the evolution of the Romanian banking system in terms of capitalization;
- analyze specific regulations concerning bank capital;
- assess the impact of capital requirements on banks' activities;
- investigate the relationship between capital and risk-taking decisions regarding the banks to meet minimum capital requirements;
- investigate the relationship between capital and profitability of banks due to the necessity of bank capital adequacy

Chapter 1

Conceptual approaches on bank capital

The objective of the first chapter was the delimitation and emphasizing, the conceptual, content and defining elements of capitalization and bank capital adequacy.

Bank capital is considered one of the most important concepts in banking, being one of the topics discussed extensively in both the banking and the regulatory and supervisory authorities. In banking practice encounter concepts such as bank capital, capital adequacy and bank capitalization.

Capital can be defined as the value of bank assets employed in operations of its activity.

Capital adequacy or banking capital requirements are rules requiring banks to keep a certain capital structure (such as the bank's equity or preference shares), which place him in the composition of investments (such as bonds and loans that it owns), designed to support banks if significant unexpected losses are recorded amounts of assets they own while honoring any withdrawals or other essential obligations.¹

Bank capitalization express operations by "modeling" of equity that they should dispose to meet prudential regulatory standards. Bank capitalization can be approached also from the perspective of the market. Market capitalization express the size of the bank's capital on the stock market at current market prices.

Another expression often used after the financial crisis is the recapitalization of the banks. Through recapitalization, banks need to get new equity to cover with them any losses due credits could prove nonperforming. Recapitalization can be defined as a policy of adjusting the existing capital by regulators at a value that allows repositioning and improving the overall performance of the bank.

In financial theory, but in practice the concepts of capital and funds are substitutable, due to well-founded arguments, namely:

- both initially considered as cash;
- is the value of the assets that constitute the course of their bank activity;

¹ Calomiris C.W., (2012), *How to Regulate Bank Capital*, National Affairs 10, www.nationalaffairs.com/publications/detail/how-to-regulate-bank-capital, p.41

- follow that through their use in various business processes (financial) lead to obtaining monetary surplus (mainly the profit).

Both capital and funds are studied aiming at the origin of their component resources (as evidenced by liabilities) but also their purpose materialized in the assets created (by reflection in the assets balance sheets).

Throughout the thesis, we considered that the funds concept better reflects the origin of the resources that make up the bank's capital , highlighting the stronger its formation process, not giving the idea of substitutability them.

Capital structure policy involves balancing the degree of risk assumed with rate of return. In the case of a credit institution, the optimal capital structure is represented by the combination of equity and loan following the requirements of the regulatory authorities, which leads to maximizing value.

Although, our research is not focused on determining the optimal bank capital structure, in the contents of this chapter we present the importance of bank capital structure and a summary of the literature regarding its structure and factors influencing financing options. I made this to better understand the complexity of the concept of capital adequacy and implications regarding the main business of banks, that is lending.

Chapter 2

Changes and trends in the Romanian banking system

The second chapter starts from the analysis of the economic framework in Romania with the fall of the communist regime milestone in the birth of the current banking system.

The restructuring of the banking system in Romania began in 1990 with the separation on the two levels of single bank system specific centralized economies.

Under the impact of various historical events, economic and social Romanian banking system has undergone profound transformations on its way to a market economy. One such moment is the penetration of foreign capital in the Romanian banking system especially towards property.

The presence of foreign capital in the Romanian banking system has influenced his work in terms of improving economic efficiency and development of the banking system, both directly and through standards set by the pressure exerted by contributing to increased competition.

I chose to make this review of the situation in the Romanian banking system capitalization context to facilitate understanding of future changes that will be submitted to it in terms of fulfilling the new capital requirements. Similarly, we made a comparative analysis of Romanian banks included in the study with banks in six other European countries. The criterion which was the basis for their inclusion in this analysis is the share of foreign capital participation in the Romanian banking system.

In conclusion, we can say that the involvement of foreign capital in the Romanian banking system, although well-capitalized according to data analyzed will affect commercial banking in all its forms. There are premises are sufficient to banking systems undergoing research for the proces of capital adequacy require concentration and bank consolidation through mergers and acquisitions or restructuring of the business. Therefore, in the future we will see a new reconfiguration of the Romanian banking system. We refer here to the announced merger of Greek banks present on the Romanian market and the recent decision to sell subsidiary of Millennium Bank Romania by Portuguese Millennium BCP group.

Chapter 3

Prudential regulations on bank capital

In the third chapter objectives aimed to analyze the opportunity of bank capital regulation and regulatory framework for its development.

Changing environment in which it operates banks, it presents both major oportunități and complex risks. The specialty literature contains multiple studies and against banking regulation, the question still remains whether and how much it should be regulated.

History shows that bank regulations were adopted more often in response to adverse developments in the financial system. Given these considerations it was necessary prudential supervision of the entire banking system to reduce the negative externalities generated by it.

Therefore, the need for monitoring arises from the need generalizations principles that should ensure a mechanism to follow bank stability and efficiency at both the entity level and as a whole.

In this context was born the first Basel Accord, according to which the aim of banking regulations is to correlate the amount of banking capital with risks value assumed by banks. Although, Basel I shortly revealed a number of shortcomings from my point of view it was an important step in terms of banking regulation, by establishing a uniform set of rules and to establish a benchmark.

With the adoption of Basel II is a change of paradigm regarding banking risk management, consisting of extensive changes in the regulatory and supervisory framework. The objective of Basel II is to establish a more efficient risk management and corporate governance for banks but also a strengthening financial stability. Instruments for achieving these objectives are structured on three pillars: minimum capital requirements, supervisory review and market discipline.

The structure of Basel II allows banks to adopt approaches that best suit their level of risk and complexity from simple to complex models of risk measurement in order to determine the appropriate level of capital. However, the recent financial crisis has shown that banks have not really been able to quantify the risks they are exposed.

We believe that the failure of Basel II is that banks gave it too much confidence that they know their own exposures and know how to manage them which led to a lack of global risk assessment by banks. Another drawback is that it generated the illusion of safety, that compliance with the capital adequacy requirements should be sufficient to absorb shocks in the economy.

The economic crisis started in August 2007, has affected all financial institutions, supervision models and proven assessment methods. In large part, this is due to innovations of credit institutions and their international business expansion that made them too big and interconnected. On the other hand the lack of high-quality capital able to absorb losses contributed to increased negative externalities that their collapse submitted in the economy.

Therefore, the current crisis has meant a recognition that it is necessary to reconfigure the global financial system. In this context, there was international consensus on revision and rethinking the framework for banking regulation and supervision. This was materialized in the authorities approach to gradually implement Basel III in the coming years.

These standards shall, at micro and macro level, higher capital requirements and better quality, with a view to effective risk management, the introduction of an additional indicator of capital adequacy - leverage, measures on capital accumulation for the stress periods and the introduction of two new standards of liquidity.

In the European Union, the new international bank capital standards are implemented by the CRD / CRR IV, showing some differences from Basel III, due to the particularities of the European market. Thus, while the Basel III applies only to internationally active banks, CRD / CRR IV provides for applicability of rules on all banks (over 8300 banks) and investment firms operating in the European Union.

Regarding Romania, through its membership of the European Union will implement Basel III rules by the European CRD / CRR IV which will application date 1 January 2014.

Chapter 4

The impact of new capital regulations on the banking system

The benefits on bank capital regulations are obvious. However, there are doubts about their effectiveness. In the case of new requirements imposed by Basel III there are many critics too. Therefore in chapter four we analyzed the impact of the new capital requirements on banks.

The main issue brought into discussion is the cost necessary to meet minimum capital requirements. Thus, critics have argued that an increase in the level of capital will be reflected in a negative impact on the economy, because banks will try to pass this cost on to customers even partially by higher interest rates, leading to a decrease in volume of loans and therefore to their low profitability.

To check to what extent the criticism is justified we used an econometric model developed by Chami & Cosimano (2001, 2010), Barajas, Chami, Cosimano & Hakura (2010), Cosimano & Hakura (2011), on the largest banks by assets, from seven European countries, including Romania. The panel analyzed includes 68 EU banks and covering the period 2006-2011. Regarding our sample capital constraints are the same given that banks belong only to EU Member States and are therefore subject to the same regulations.

Of course, our approach has its limitations. First, our estimates may be distorted by sample heterogeneity banks in terms of size, operating model and governance profile.

Empirical estimation is based on a method that simultaneously captures banks' decisions regarding: the optimal level of capital which

they will hold and loan rate which affecting in turn the volume of loans. The working hypothesis of the model is based on capital regulation.

A first observation research shows that many European banks have already complied with the minimum capital requirements (refer to equity ratio which is the highest quality capital). Strictly speaking Romanian banks included in our analysis we find that they have met the minimum capital requirement of 7%.

Given the above, we divide banks into two categories: those with equity greater than 7%, which meet capital requirements, and those with equity of less than 7% who do not meet capital requirements, to see the impact on the rate of capital growth rate loan for the latter.

Impact on growth rate equity loan rate and the volume of loans

	total	E/A > 7%	E/A < 7%
Banks	68	41	27
% number of banks	100%	60,29%	39,71%
Average equity rate	9,52%	13,2%	3,94%
% equity growth rate	x	x	3,06%
The impact on the lending rate (bps)	x	x	-13,16
Average Current Loan	6,23	5,39	7,78
% Loan rate impact	x	x	-1,69%
% impact on credit	x	x	-0,39%

Source: author's calculations

The results of our analysis show that the percentage of banks will have to increase its equity ratio is 39.71%. These banks should need to increase capital rate of 3.94% to 7%, or an average of 3.06%. Our calculations show that such an increase would tend to reduce the loan

rate 0,132 bps. ($-0.043 * 3.06\%$), representing a decrease of 1.69% from the current average borrowing rate.

How these requirements must be met within eight years (we refer to the period from late 2011 to late 2019), we can say that the effects would not be very noticeable.

For other capital ratio we appreciate that banks will not have too many problems to meet the minimum requirements, considering the results of our research.

Chapter 5

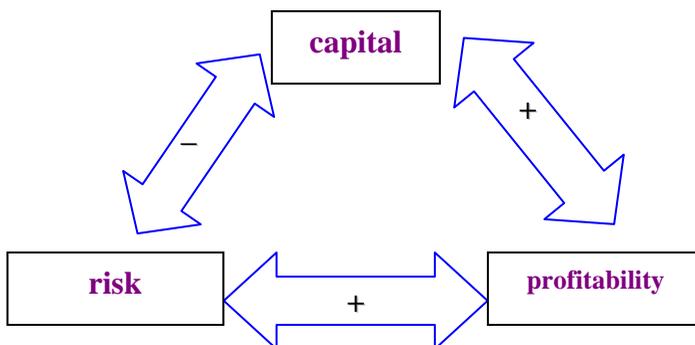
Performance and risk in banking in the context of capital adequacy

Another concern of critics regarding the new capital requirements is to reduce the profitability of banks. To determine the influence of the new capital adequacy requirements on banks' behavior in chapter five we conducted a literature review aimed to identify the relationship between capital, risk and profitability.

Usually, in literature the three variables: capital, profitability and risk are analyzed in pairs. In our approach we used an econometric model of simultaneous equations using the idea originally developed by Shrikes and Dahl (1992), in which is analyzed the relationship between capital and risk. Unlike this approach, we extended the model to simultaneously analyze the three variables: capital, profitability, and risk for the same countries and the same banks used in the previous model.

Based on empirical model I could find a negative relationship between capital and the risks assumed and a positive relationship between capital and profitability as well as between risk and profitability.

The relationship between capital, risk and profitability



Source: Based on empirical model results

The positive relationship between the capital and profitability ratios makes us suppose that banks who made profit are better capitalized as a result of the reinvestment of profit and therefore will hold a high level of capital. A high profitability have banks who focus on reducing operating costs and those who have an appetite for higher risk. Therefore, the model confirms that high risk leads to a higher level of profit. This result is given by the positive relationship between risk and profitability.

Negative relationship between capital and risk, if we consider the hypothesis of moral hazard may suggest that managers are encouraged banks to take more risks when the level of bank capital is low.

Results are confirmed in the case of Romania too, where we assist to a reconfiguration of the banking system. The banking activity is focused on rethinking the business model, with a return to core activities, effective management of costs and significant redundancies and provide simple banking products and customer oriented. Moreover, all these

efforts are the priority of meeting the new capital requirements while ensuring the interests of shareholders.

Therefore, the results of our research do not justify all the concerns regarding the minimum capital requirements.

Conclusions, limitations and perspectives

The last part of the paper covers the synthesis results and the lessons learned during our research on determining all aspects of how the minimum capital requirements will affect banking.

We also presented our proposals on the issues approached.

- In terms of banking regulations, consider appropriate to apply the new rules on capital requirements for all banks and investment firms operating in the EU, as required by CRD/CRR IV. A selective application of these rules could lead to a transfer of financial intermediation operations from large institutions over regulated to smaller institutions and less regulated.
- Another important aspect would be the design of prudential regulations to ensure more effective monitoring of systemic risk and to limit the spread of the contagion between financial institutions.
- Banks need to rethink their business model for the adequacy level of capitalization as well as reputation and regain market confidence. We refer here to the case of Cyprus where the authorities were forced to recapitalize banks by depositors. This caused a serious decline in the image and reputation of the banking system.

- In view of the above we consider necessary to increase transparency in the provision of financial data and information on institutions that fail to respect any rules.
- Increased revenues and therefore profits by improving operational costs and the associated risks, because a bank can adapt their profit by reinvesting capital at lower costs.
- In the Romanian banking system dominated by banks with foreign capital in the euro area, faced the highest risk of contagion from parent companies, we recommend reducing reliance upon funding from parent banks to carry on local activities.
- Improving the quality of assets, given the context of the current regulations, but also as a factor for improving the performance of banks.
- In achieving the above proposal as support we suggest developing programs for CRM (Customer Relationship Management) - for possession of relevant information on clients and the establishment of historical databases.

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2. <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/> - Eurostat
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4. www.investopedia.com
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6. www.en.wikipedia.org - *Wikipedia*
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