

ALEXANDRU IOAN CUZA UNIVERSITY OF IAȘI  
FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

**PhD thesis summary**

**CENTRAL BANKS' POLICIES ON SAFEGUARDING  
MONETARY AND FINANCIAL STABILITY**

SCIENTIFIC COORDINATOR:

**PROF. UNIV. DR. VASILE COCRIȘ**

PhD CANDIDATE:

**ANCA ELENA NUCU**

## **Table of contents of the thesis summary**

1. Motivation. Purpose. Objectives
2. The structure of the thesis
3. Research strategy
4. Summary of chapters included in this thesis
5. The main results. Own contributions

### **Key words**

monetary policy, financial stability, monetary stability, central bank, Basel III, transmission mechanism, Vector Error Correction methodology, Structural Vector Autoregressive methodology, impulse-response analysis

## ***1. Motivation. Purpose. Objectives***

The global financial crisis has shaken the fundamentals of central banks governance, and they are now facing a triple challenge: operates in a hostile economic environment, are forced to make decisions in full knowledge of the fact that some of their reference macroeconomic paradigms have failed and governance arrangements faces with political pressure. In the pre-crisis period, the task of central bank was essentially to maintain price stability. Post-crisis, it has been proved that price stability does not guarantee financial stability and central banks were forced to move into the realm of unconventional. Currently, the monetary authorities must find a "compass" to guide them in the process of adjusting the frameworks related to monetary policy and financial stability. Therefore, the timeliness and the importance of the subject motivate our scientific research.

The purpose of our research is to conduct a qualitative, but also quantitative analysis in order to highlight the implications of central banks' policies in ensuring financial and monetary stability, given the redefinition of the role of central banks as a result of the profound negative implications of the recent international financial and economic crisis. Monetary policy and financial stability policy represent the "epicenter" of our research, motivated by economic realities.

This purpose is developed analytically through research objectives:

- the operationalization of 'monetary stability' and 'financial stability' concepts;
  - literature review regarding the compatibility between monetary policy and financial stability policy, considering implicitly, the compatibility between the two main objectives of central banks;
  - the analysis of the traditional functions of the monetary authorities regarding monetary and financial stability;
  - studying the implications of central banks' policies in ensuring monetary and financial stability, in terms of the non-standard measures, the

reconsideration of the governance structure of the monetary authorities, recent developments in financial stability policy and a case study on the example of National Bank of Romania (NBR);

- the achievement of a comparative empirical study on the example of Central and Eastern European countries, using Vector Error Correction model and impulse response analysis in order to investigate the impact of monetary policy on macroeconomic variables, proxies for financial stability.

## ***2. The structure of the thesis***

List of abbreviations and acronyms

List of figures

List of tables

### **INTRODUCTION**

#### **CHAPTER 1. Monetary stability-financial stability interrelationship: general framework of approach**

1.1. Conceptual delimitations regarding monetary stability and financial stability

1.2. The analysis of compatibility between monetary policy and financial stability- a literature review

#### **CHAPTER 2. Comparative approach of central banks standards regarding the safeguarding of monetary and financial stability at the European Union level and at the Romanian financial system level**

2.1. Central bank intervention via monetary policy interest rate

2.2. Deposit guarantee function

2.3. Lender of Last Resort function

2.4. Supervision and regulation of the banking system

2.4.1. Institutional arrangements concerning Basel III at the level of European banking system

2.4.2. Implications of Basel III on the Romanian banking system

2.5. Management of payment and settlement systems

#### **CHAPTER 3. Implications of central bank policies regarding the ensurance of monetary and financial stability**

3.1. Unconventional monetary policy measures. Reasons for their adoption and macroeconomic effects

- 3.2. Reassessment of the central banks role in the financial system- a consequence of the current economic and financial crisis
- 3.3. Financial stability policy-recent trends, challenges and perspectives
  - 3.3.1. Challenges related to implementation of macro-prudential regulatory instruments
  - 3.3.2. Perspectives related to implementation of macro-prudential regulatory instruments
- 3.4. Monetary policy and financial stability policy in the case of National Bank of Romania

## **CHAPTER 4. Ensuring monetary and financial stability under the impact of central bank policies- a comparative analysis on the example of Central and Eastern European countries based on Vector Error Correction methodology**

- 4.1. Empirical analysis of the monetary policy transmission mechanism based on VAR methodology in the academic literature
- 4.2. Particularities of the monetary policy transmission mechanism via interest rate in CEE countries
- 4.3. Methodological background
  - 4.3.1. The data
  - 4.3.2. The methodology
- 4. 4. Empirical results
- 4. 5. Alternative methodological specifications
  - 4.5.1. Methodological considerations
  - 4.5.2. Empirical results

## **CONCLUSIONS**

## **REFERENCES**

## **APPENDICES**

### ***3. Research strategy***

The research strategy is based on the combination of techniques, processes and tools of qualitative and quantitative methodology, mixes considered in research methodology through triangulation.

For the beginning, the abduction was the method that offered us the technical and instrumental support. Also, we have used the observation as scientific method, based on various techniques adapted to contexts: direct and participative observation, reading documents. In order to achieve the statistical and empirical analysis the available data have been obtained via mediate collection techniques. In this respect, we have appealed to official statistics (ECB Statistical Data Warehouse, World Bank, Eurostat), to the data sets provided by the central bank websites and Datastream Thomson Reuters, to which I had access during the research stage at the University of Konstanz, Germany.

As data processing methods, we have used quantitative and qualitative analysis, respectively. As technique of the first mentioned method, we have used comparative analysis and Vector Error Correction Model (VECM), Structural Vector Autoregressive Model (SVAR) and impulse response analysis are techniques that support our quantitative analysis.

#### *4. Summary of chapters included in this thesis*

The thesis is structured in four chapters, with introduction and conclusions, related with the research objectives. The first chapter "**Monetary stability-financial stability interrelationship: general framework of approach**" defines the theoretical framework and presents a review of literature regarding the compatibility between monetary policy and financial stability policy. The review of the representative literature have allowed us to outline the present state of knowledge in the field. Thereby, we can conclude that:

- ❖ studies regarding financial stability are fewer than those involving monetary stability and do not offer yet a consensus on several issues. Unlike monetary stability, there is no consensual definition of financial stability and no aggregate indicator of measurement, unanimously accepted.

- ❖ there are both common and specific elements between monetary stability and financial stability, and the causal relationships between these two is manifested in both directions.

- ❖ currently, the dominant view on the compatibility between monetary policy and financial stability has changed and the academic literature converge towards the necessity to establish an explicit mandate of central banks in safeguarding financial stability.

- ❖ low and stable inflation is not a guarantee of real and financial sector stability, but in the medium and long run, there is an synergy between price stability and financial stability rather than an irreconcilable conflict.

- ❖ there is no general consensus regarding the role of monetary policy in managing asset price developments.



**Chapter two " Comparative approach of central banks standards regarding the safeguarding of monetary and financial stability at the European Union level and at the Romanian financial system level"** presents the traditional actions and functions of monetary authorities on safeguarding macroeconomic stability. The main aspects analyzed, comparatively, at the EU level and at the Romanian financial system level are: the actions of monetary authority via key interest rate, the deposit guarantee function, the function of lender of last resort, supervision and regulation of the banking system and, respectively, of the payment and settlement systems.

In order to defuse threats to the financial system and to the credit recovery process, it is well known the cooperative and convergent action of monetary authorities via interest rate, in sense of its reduction, subsequent to the outbreak of the crisis in July 2007.

Regarding the deposit guarantee schemes, there is an incomplete consensus on a comprehensive and unified image.

The Lender of Last Resort function represents another important aspect regarding the safeguarding of financial stability. At the level of the European Monetary Union, the Lender of Last Resort function, in exceptional circumstances, incumbent to the National Central Banks, while providing liquidity in a emergency is a task of the European Central Bank. We do not exclude the future possibility of a LOLR at EU level, but reconfigurative measures of the regulatory and supervisory framework require prolonged efforts. We propose, as measure, improving legislation regarding the LOLR function for credit institutions with cross-border activity and clear stipulation of NBR intervention, as LOLR, in special conditions.

Also, supervision and regulation of the banking system represents an essential coordinate in ensuring and maintaining financial stability. At the level of EU Member States, there is no single model for an optimal supervisory structure and the institutional structures of financial supervision differs among countries. At international level, the surveillance framework has been restructured, by strengthening micro-prudential supervisory

standards and introducing new approaches from macroprudential perspective.

The new Basel III will fundamentally affect the profitability of the banking industry at the European level. Instead, at national level, the impact of introducing new capital requirements on banks is generally thought to be limited, but we can not say the same about liquidity standards, potential vulnerabilities arising from uncertainties about the stability of external financing.

And last but not least, the management of payment and settlement systems belongs to central bank functions in terms of monetary and financial stability. In the academic literature it is widely recognized the interest of central bank in the efficient functioning of payment and settlement systems and there are no controversy about the importance of their functioning.

Chapter three "**Implications of central bank policies regarding the ensurance of monetary and financial stability**" aims to: the reasons of adoption and macroeconomic effects of unconventional monetary policy measures, redefining the role of the central bank in the financial system, the main trends, challenges and perspectives of financial stability policy and a case study on the example of the National Bank of Romania.

As a response to the financial crisis, central banks have adopted a range of non-standard monetary policy measures in order to maintain the transmission mechanism of monetary policy and ensure financing to economic agents and households. Although central banks have implemented a mix of unconventional measures, quantitative easing has established itself. Currently, there is the problem of defining an exit strategy, time reversal and speed being extremely important to avoid the potential effects of the anticipatory reversing.

Looking ahead, we consider that the monetary policy stance will be adjusted in accordance with the risks to price stability, while the timing and pace of phasing out non-standard measures will be decided on the basis of progress in the self-sustained normalization of transmission mechanism.

Global financial and economic crisis has revealed that the missing pillar in the architecture of financial stability has been the macroprudential approach to financial supervision and separate delineation of prudential policy is considered one of the key elements of post-crisis reforms.

The post crisis dominant vision of academic literature is the fact that monetary authority should have an explicit mandate for financial stability. We subscribe to the above mentioned idea. However, this proposal, has a big drawback: there are two objectives- price stability and financial stability- and only one instrument, the interest rate and, therefore, the two goals might conflict. Due to this fact, once established arguments in the favor of a dual mandate, we consider that it takes explicit objectives and tools to support financial stability.

But the literature on macroprudential policy does not provide a consensus on its objectives and instruments (Galati and Moessner, 2011). Despite the general consensus on how monetary policy should be implemented by an independent central bank, with the primary goal of ensuring price stability, there is no agreement on the institutional arrangements for financial stability. It is certain that within the new financial supervisory architecture, the domain of macroprudential instruments became much wider.

In conclusion, we can say that the recent financial crisis has triggered a major reevaluation of financial stability policies and the main measure was the change from micro to macro-prudentiality. But this process of renovation will last and central banks will learn through experimentation and observation.

The last sub-chapter of Part Three is a case study on monetary policy and financial stability policy pursued by the NBR amid the negative events that affected the real economy worldwide. Our research shows that monetary policy has manifested anti-cyclical character and has anticipated inflation shocks. The present mandate of NBR falls between price stability and financial stability. As prudential authority, we consider that NBR will perform the approval task for Basel III regulatory capital reforms and data collection needed to monitor the leverage ratio so that these policy measures to be completed on time.

Chapter four "**Ensuring monetary and financial stability under the impact of central bank policies- a comparative analysis on the example of Central and Eastern European countries based on Vector Error Correction methodology**" is an empirical study which investigates the response of macroeconomic variables to a monetary policy shock via short-term interest rate. Using Vector Error Correction model and impulse-response analysis, we want to test if the interest rate instrument used for inflation targeting is conducive to financial stability, in the experience of several Central and Eastern European countries (CEE), EU members and candidate to Euro area: the Czech Republic, Hungary, Poland and Romania.

First, the topicality of the theme motivates our research. Second, we want to overlap a niche revealed by the literature review in the field on the experience of Central and Eastern new EU member states. Although the monetary policy transmission mechanism in the candidate countries has been written about from the empirical standpoint, the studies are less numerous. Third, the existence of contradictory results that have been noted within the previous academic literature serves as an incentive for our research.

In line with Granville și Mallick (2009), we consider financial stability in terms of changes in index prices, in the exchange rate measured in local currency units per EUR and in loan to deposit ratio for the banking system. Also, we have examined the effect of monetary policy on real sector, by including the industrial production index in the empirical model.

Therefore, for each country (the Czech Republic, Hungary, Poland and Romania), we define a five-dimensional VECM system, with the following variables: log of industrial production index, three-month money market interest rate, loan to deposit ratio, log of index prices and log of exchange rate measured as local currency per EUR. Monthly time series data ranging from 2003M01 to 2012M06 have been used.

In the following table we summarize the results of the impulse response analysis based on VECM specification

Responses of financial variables to a monetary policy shock in the Czech Republic, Hungary, Poland and Romania (2003: M01 2012: M06)

| Country<br>Variables        | CZ | HU | PL | RO | Expected |
|-----------------------------|----|----|----|----|----------|
| Industrial production index | -* | -* | -* | -* | -        |
| Short-term interest rate    | +* | +* | +* | +* | +        |
| Loan to deposit ratio       | -  | -* | -* | -* | -        |
| Stock prices                | -* | -  | -* | -* | -        |
| Exchange rate               | -* | -* | -* | -  | -        |

Note: - negative response, + positive response, \* statistically significant response at 5% level

Source: own estimates based on JMulTi

Considering the methodology, the proxies variables and the selected sample, our results highlight that the interest rate instrument used for inflation targeting strategy is suitable for promoting financial stability. We find no evidence of counter-intuitive responses of macroeconomic variables to a monetary policy shock, which leads us to state, with reference to the previous literature, that we are witnessing to a consolidation of monetary policy transmission mechanism via interest rate.

### 5. The main results. Own contributions

From the perspective of *financial stability*, our empirical results on the example of CEE countries during 2003M01-2012M06 highlight the following:

- ❖ the interest rate represents an efficient instrument of intervention in order to correct evolution of asset prices;

❖ since stock markets in the Czech Republic, Hungary, Poland and Romania are sensitive to unexpected changes in interest rates, a good alternative for investors would be to rely on interest rate forecasts to make investment decisions in the Czech, Hungarian, Polish and Romanian capital markets;

❖ there is an inverse relationship between the exchange rate and the interest rate in all countries analyzed, irrespective of their exchange rate regime (free floating or managed floating);

❖ the answer of the exchange rate to monetary policy shocks do not suffer from the "delayed overshooting" phenomenon in none of the analyzed countries;

❖ there is an inverse relationship between the interest rate and the loan to deposit ratio for the banking system in the Czech Republic, Hungary, Poland and Romania. With the exception of the Czech Republic, the relationship is statistically significant. This means that the interest rate represents an efficient instrument of the central bank in order to prevent excessive borrowing by households and economic agents;

❖ the interest rate must be complemented by other tools in order to tackle the incipient imbalances which threaten financial stability.

From the perspective of *monetary policy*, our empirical results on the example of CEE countries during 2003M01-2012M06 highlight the following:

❖ the transmission of monetary policy impulses is performed with a time lag;

❖ responses of macroeconomic variables to a monetary policy shock are similar in the Czech Republic, Hungary, Poland and Romania. The differences between countries consist in the number of periods (months) after the shock when these effects occur and in the persistence of the shocks;

❖ the differences between countries analyzed concerning the magnitude and persistence of shocks show that it is not appropriate to formulate general monetary policy decisions;

❖ compared with counterintuitive results of the previous studies, we can say that we are witnessing to an improvement in the effectiveness of monetary policy transmission via interest rate channel in Romania;

❖ the sensitivity of the exchange rate to interest rate evolution shows that the exchange rate regime is in compliance with use of inflation targets as a nominal anchor for monetary policy;

❖ all the macroeconomic variables move in the expected direction after a monetary policy shock.

Our contribution relative to the previous literature consist in:

\* updating the knowledge stage of the subject in the academic literature;

\* the comparative analysis of central banks standards regarding the ensurance of monetary and financial stability at the European Union level and at the Romanian financial system level;

\* the identification of challenges and perspectives related to the implementation of Basel III macro-prudential regulatory instruments at national and European level;

\* addressing the highly topical issue of macro-prudential framework with the focus on effectiveness of monetary policy in affecting selected asset prices, in the aftermath of the boom-bust cycle experienced by CEE countries in the second half of the last decade.

Also, our practical contribution to the existing literature is reflected by articles published in journals indexed ISI Web of Science, B +, in the international database and by participation at international conferences in Romania and abroad.

Our research is useful from two perspectives:

❖ *academic perspective* by updating the knowledge stage useful for future research;

❖ *practice perspective* in terms of central bank activity, because it assesses the effective transmission of monetary policy impulses via the interest rate, as an instrument. From the perspective of practical use of research results, we believe that this work can be a good guide on monetary and financial stability issues.