



„Alexandru Ioan Cuza” University of Iași  
Faculty of Economics and Business Administration  
Doctoral School of Economics and Business Administration  
– Finance

## **CURRENCY AREAS: FUNCTIONALITY AND IMPLICATIONS**

Summary of the Doctoral Dissertation

Scientific Supervisor:  
Professor Gheorghe M. Voinea

PhD Student:  
Puiu Cristina

Iași, 2013

We would like to inform you that on 26.09.2013, 9.00, in the Conference Room R 402, **Puiu Cristina** will defend publicly the thesis „**Currency areas: functionality and implications**”, with the aim of conferring PH.D title to the author.

**The defense commission has the following members:**

**President:** Professor Vasile Cocriș, Vice Dean of the Faculty of Economics and Business Administration, „Alexandru Ioan Cuza” University of Iași;

**Scientific Supervisor:** Professor Gheorghe Voinea, „Alexandru Ioan Cuza” University of Iași;

**Reviewers:**

- Professor Tatiana Moșteanu, The Bucharest University of Economic Studies;
- Professor Felicia Alexandru, The Bucharest University of Economic Studies;
- Professor Gheorghe Filip, „Alexandru Ioan Cuza” University of Iași;

We hand over the summary of the thesis and we invite you to participate at the public defense of the thesis. The thesis can be consulted at the library of the Faculty of Economics and Business Administration.

# CONTENTS

---

## INTRODUCTION

### I. SCIENTIFIC FOUNDATIONS OF CURRENCY AREAS

- 1.1 Monetary integration and its connection to economic integration
- 1.2 Delimiting the concepts of currency area and monetary union
- 1.3 Currency areas from international economic relations practice
  - 1.3.1 CFA Franc Zone in Africa
  - 1.3.2 Eastern Caribbean Currency Union (ECCU)

### II. OPTIMUM CURRENCY AREA THEORY

- 2.1 Optimum currency area theory in the '60 and its significance for creating a currency area
- 2.2 Optimum currency area theory criteria
  - 2.2.1 Critics of optimum currency area theory criteria
  - 2.2.2 Endogeneity of optimum currency area theory criteria
- 2.3 Optimum currency area theory and the European experience
- 2.4 Optimality of a currency area
- 2.5 Cost benefit analysis of monetary integration
- 2.6 Test for maintaining a currency area

### III. THE ESTABLISHMENT AND THE ARCHITECTURE OF THE EURO CURRENCY AREA

- 3.1 The evolution of the idea of monetary integration in Europe
- 3.2 The experience of the European Monetary System functioning for deepening the monetary integration in the European Community
- 3.3 The pillars of Economic and Monetary Union functionality
  - 3.3.1 Single currency
  - 3.3.2 European Central Bank and the European System of Central Banks
  - 3.3.3 Single monetary policy

### IV. THE FUNCTIONALITY OF THE EURO CURRENCY AREA

- 4.1 Fulfillment of the criteria for joining the European Monetary Union – expression of its functionality
- 4.2 Results of the euro area functionality from 1999 to 2012
  - 4.2.1 Economic growth of countries in the euro area
  - 4.2.2 Labor market and unemployment in the euro area

4.2.3 Monetary stability in the euro area

4.2.4 Public finances situation in euro area countries

4.3 Assessing the optimality of the euro area

## V. THE IMPACT OF THE RECENT FINANCIAL CRISIS ON EURO AREA FUNCTIONALITY

5.1 Origins of the euro area crisis

5.2 Interaction between private and public debt

5.3 Comparative analysis of the crisis in Ireland and Greece

5.4 Managing the present crisis and enhancing the stability of the Economic and Monetary Union

## VI. IMPLICATIONS OF EURO CURRENCY AREA

6.1 The impact of euro currency on intra euro area trade

6.2 Implications of euro currency on international monetary and financial stability

6.3 Implications of euro area on economic growth and unemployment

6.4 Implications of euro area on economic and social cohesion

6.5 Requirements of euro adoption in Romania

6.5.1 The effects of the financial crisis on the perception regarding joining the euro area

6.5.2 The duality of the convergence process: nominal convergence and real convergence

6.5.3 Assessing whether Romania fulfills the nominal and real convergence criteria for joining the Economic and Monetary Union in Europe

CONCLUSIONS

BIBLIOGRAFY

ABBREVIATION LIST

LIST OF TABLES, GRAPHS, FIGURES AND APPENDICES

APPENDICES

## INTRODUCTION

---

In the last three decades it has been recorded a high interest for monetary integration mainly due to the development of the European economic integration process. The introduction of the euro currency stimulated the theoretical debates regarding currency areas.

Engaging in this research field that pursues the identification and the theoretical and empirical approach of the critical elements of the functionality and implications of a monetary union is explained by the particularity of the European Economic and Monetary Union that implies adopting euro currency, a single monetary policy and independent fiscal policies. Furthermore, the strong imbalances in the euro area caused by the recent financial crisis are an additional argument for this endeavor. After more than ten years since euro introduction, the problems faced by the member states bring into attention the necessity of reviewing and consolidating the scientific foundation of currency areas. Also, now that the viability of the euro currency area is questioned we consider it is necessary to renew the empirical research in this field.

*The purpose* of the doctoral dissertation is to offer a knowledge base, based on a solid analysis of currency areas that allows understanding how they are organized, the factors that influence their functionality and the implications upon member countries.

The paper is organized in six chapters that cover the main features of the architecture, functionality and stability preserving in a currency area.

## I. SCIENTIFIC FOUNDATIONS OF CURRENCY AREAS

---

We identified in the literature different views regarding the features of the concept of currency area. Currency area can have multiple acceptations and there are used simultaneous different terms, especially the ones of single currency area and monetary union in order to characterize different stages of monetary integration.

After getting through the numerous viewpoints regarding the concept of currency area, we observed the fact that it can take a broad or a narrow definition, identifying with or containing the term of monetary union. We consider that the more adequate approach is the one where the term of monetary union and the one of currency area are similar and refer to a group of states characterized by a common monetary policy and a single currency.

Taking into consideration the selected features for defining a currency area, we have identified in the international economic relations practice four examples, namely: European Economic and Monetary Union, Central African Economic and Monetary Community, West African Economic and Monetary Union and Eastern Caribbean Currency Union.

Euro area distinguishes among other monetary unions through the complexity that characterizes the evolution of the idea of integration, the institutional framework and its dimension.

The amplitude of the European monetary integration process determined us to consider adequate that the future empirical analysis should be carried on using data regarding the European Economic and Monetary Union.

## II. OPTIMUM CURRENCY AREA THEORY

---

Optimum currency area theory can be seen on the one hand as an assessment of fulfilling the optimality criteria and on the other hand as a cost benefits analysis of adopting a single currency.

Within the optimum currency area theory there are three controversial aspects: *its origins, the optimality criteria and the connection between this theory and the European monetary union*. The main limit regarding the optimum currency area theory criteria refers to their operationalization.

The most important recent development of Mundell's theory refers to the endogeneity of the criteria. This hypothesis seems to encourage the monetary integration process since it assumes the possibility of fulfilling the optimality criteria after adopting the single currency.

The financial crisis brought into attention the break-up of the euro area. In order to establish the viability of such an undertaking, we turned to the examples offered by the history, to legislative features as well as the opinions of some leading economists.

Although we have not identified cases when the currency areas had similar characteristics to those of the euro area there are examples of countries that exit monetary unions and their analysis can offer different insights.

Despite the fact that countries like Greece, Ireland, Spain or Portugal have registered a significant deterioration of their public finances, we consider that leaving the euro area is not a solution. This opinion is explained by the fact that the decision to exit the euro area must be preceded by a cost benefits analysis that clearly highlights the effects, especially the negative ones.

### **III. THE ESTABLISHMENT AND THE ARCHITECTURE OF THE EURO CURRENCY AREA**

---

The process of monetary integration that started in Europe in the '70 assumed many steps until the introduction of the single currency. Monetary integration has been characterized by both monetary and economic views, thus highlighting the gradual and shock therapy approaches of introducing a single currency.

The results of the research conducted in the doctoral dissertation support the fact that euro has extended its role of an international currency, but it did not become a true competitor to the American dollar. According to the factors that support the international role of a currency, like the economic output and international trade, the currency history, the financial markets and the confidence in the currency, the American dollar maintains its supremacy.

The present financial crisis has highlighted various problems in the architecture of the European Economic and Monetary Union. Meeting the nominal convergence criteria was not enough in order to assure the stability of the economic and monetary union. Differences between the levels of development of the member countries have become more prominent, the euro area states being divided in southern and northern ones. These differences are important taking into consideration the fact that the euro area construction is characterized by a centralized monetary policy and by fiscal policies conducted at national level.

In the context of the imbalances faced by the monetary union in Europe, our research highlighted the importance of the moral hazard risk for the functioning of the monetary union. In the case of the euro area, both the member states, and the European Central Bank have contributed to



helping southern countries in order to prevent the appearance of a contagion effect inside of the economic and monetary union.

The European Central Bank involvement in order to support the member states facing with high imbalances represents the occurrence of the lender of last resort function. Despite the fact that the European Central Bank involvement as a lender of last resort was denied in the beginning, the most recent statistical data show the fact that it has purchased securities from southern countries through the Securities Market Program.

The main critic brought to the monetary policy promoted by the European Central Bank refers to the fact that it does not fit all member countries.

In order to test the hypothesis “one size fits all” referring to the ECB monetary policy adequacy we used the methodologies promoted by the most recent studies. These imply comparing the monetary policy rate of the central bank with the policy rate suggested by the Taylor rule.

After applying the Taylor rule to each member state of the European Economic and Monetary Union, we could observe the fact that is closer to the monetary policy rate of the European Central Bank in the case of northern countries compared to the southern ones. The differences indicate the fact that the single monetary policy cannot respond equally to the different economic problems of euro area countries.

#### **IV. THE FUNCTIONALITY OF THE EURO CURRENCY AREA**

---

Providing the functionality of the Economic and Monetary Union assumes fulfilling the convergence criteria imposed by the Maastricht Treaty.

The nominal convergence criteria were criticized for the fact that do not take into consideration the differences between countries and that could not be adapted to the changes in the economic situation.

These critics do not pursue to diminish the role of the nominal convergence, but to improve the way it is applied. One of the solutions to address the weak points of the convergence criteria is to modify them, but this requires a long period of time.

From the analysis on the functionality of the euro area after ten years, we highlighted the fact that the euro area brought monetary stability; the situation of public finances has been also improved; starting 2005, until 2008, the unemployment rate has been significantly reduced in the euro area and the economic growth, although it has registered low levels for the member countries, it has showed signs of improvement until the end of 2007.

The economic and financial crisis of 2007/2008 has significantly deteriorated the main indicators referring to the economic and social development of the euro area, though indicating that there are problems regarding euro area functionality.

The European monetary union has offers plenty of data in order to empirically study the complex aspects of the optimum currency area theory. Studying to what extent the euro area fulfills the criteria of an optimum monetary area shows that only some of these are satisfied.

## **V. THE IMPACT OF THE RECENT FINANCIAL CRISIS ON EURO AREA FUNCTIONALITY**

---

The financial crisis has produced major imbalances in the functioning of the euro area that highlighted the fact that it does not fulfill the requirements of the optimum currency area theory criteria. Among the causes of accumulating significant levels of public debt it can be mentioned the interaction between private debt and public debt.

Similar to the moral hazard risk at union level, where a member country relies on the support provided by other member countries or by a supranational institution, at state level this risk can be found in the relation between financial institutions and governments. The result of the rescue operations of financial institutions has determined a transfer of debt from the private sector to the public one, contributing to an important increase in the level of sovereign debts.

The interaction between public debt and private debt is not the only cause of the financial crisis in the euro area. The existence of different causes for imbalances in the member states of the euro area requires different management of the measures used in order to prevent a similar event in the future.

Until recently, in order to reestablish the stability of the euro area there have been taken many measures that addressed the problems of public finances, economic governance and regulations for financial markets.

Managing the crisis also meant measures of financial assistance of the member states of the European Union embodied mainly in the Financial Stability Package at European level.

Regarding assuring the stability of public finances in the future we consider that one of the most important adopted measures is represented by establishing a new limit for the structural balance.

The substantial imbalances caused by the financial crisis in 2007/2008 can be seen through the contribution brought to understanding the weak points of Economic and Monetary Union construction. While before the financial crisis the member states were relatively reserved to the idea of unifying the regulating and banking supervision processes and the necessity of deepening the fiscal integration, the recent events have accelerated the decision process in this field.

The solutions for the crisis are none but a step in completing the Economic and Monetary Union and help eliminating the problem of moral hazard since the taxpayers in a state will not be affected by the problems of another member state in the union.

---

## **VI. IMPLICATIONS OF EURO CURRENCY AREA**

---

Reconsidering the adoption process of the single currency, as a consequence of the financial crisis, has an important meaning for Romania, as a member of the European Union that does not participate at the monetary union.

Taking into consideration the low level of real convergence registered by our country, we consider that it is needed a longer period of time that allows it to reduce the time lag towards the euro area countries. Therefore, aiming a certain period of time for adopting the euro area must take into account these limits of fulfilling the real convergence.

Joining the currency area in Europe does not bring only costs for the member states. Among the most important benefits is the one that

affirms the fact that euro area adoption brings an increase of trade between member states. Indeed, from 1999 to 2012 the level of trade between euro area countries increased substantially, its value becoming double. However a simple observation of these statistics cannot offer information regarding the euro currency contribution to this evolution. In order to highlight the influence of the single currency on trade we have conducted an econometric analysis.

Using panel data regarding the trade flows between euro area countries from 1999 to 2012 and applying an OLS regression, we have obtained different results for the two chosen models. In the case of the first model, that contains twelve countries from the euro area and Denmark, United Kingdom, and Sweden as a control group, it has been estimated an increase of 10% of the intra trade as a result of adopting the euro area. For the second model, that contains twelve countries in euro area and Switzerland, Island and Norway as a control group, the results show a higher increase of the intra euro trade (of 15.6%) after adopting the single currency comparing to the first model.

The main personal contributions regarding the empirical analysis of the effect that euro has on the trade among member states refers to the approach used to select the variables, the period of time for which the data has been collected (contains the most recent data, until 2012), the comparison with the previous empirical studies.

The econometric study has also limits referring to the fact that the data used contains only the trade flows with goods and that it uses macroeconomic data, because of the difficulty to collect the microeconomic information regarding trade flows.

The research conducted in the doctoral dissertation highlights the fact that the creation and functioning of a currency area represent complex

processes that depend on the selection of the member states and on the optimizing the supervision and regulation frameworks of the currency area.

*This work was supported by the European Social Fund in Romania, under the responsibility of the Managing Authority for the Sectorial Operational Program for Human Resources Development 2007-2013 [grant POSDRU/CPP 107/DMI 1.5/S/78342].*

## BIBLIOGRAFIE SELECTIVĂ

---

- Ahearn R., Jackson J., Nelson R., Weiss M., *The Future of the Eurozone and U.S. Interests*, Federation of American Scientists, 2011
- Alexandru F., *Fiscalitate și prețuri în economia de piață*, Editura Economică, București, 2002
- Alesina A., Barro R., *Currency Unions*, Quarterly Journal of Economics, 2002, pp. 409-436
- Attinasi M. G., *Euro Area Fiscal Policies: Response to the Financial Crisis*, European Central Bank, Frankfurt, 2010
- Baldwin R., *In or Out: Does It Matter? An Evidence-Based Analysis of the Euro's Trade Effects*, Center for Economic Policy Research, 2006.
- Baldwin R., Wyplosz C., *The Economics of European Integration*, McGraw Hill, Berkshire, 2009
- Bofinger P., *Is Europe an Optimum Currency Area?*, Centre for Economic Policy, Discussion Paper Series, No. 915, 1994
- Bourguinat H., Teiletche J., Dupuy M., *Finance Internationale*, Dalloz, Paris, 2007
- Bun M., Klaassen F., *The Euro Effect on Trade is not as Large as Commonly Thought*, Oxford Bulletin of Economics and Statistics, 2006
- Burda M., Wyplosz C., *Macroeconomics: A European Text*, Oxford University Press, New York, 2009
- Cerna S., *Teoria zonelor monetare optime*, Editura Universității de Vest, Timișoara, 2006
- Cohen B., *Monetary Unions*, EH. NET Encyclopedia, 2010
- Cottarelli C., *Sovereign Debt Crisis: Why in Europe and not Elsewhere?*, International Monetary Fund, Washington, 2012
- De Grauwe P., *The Economics of Monetary Union*, Oxford University Press, New York, 2010
- Filip G., Zugravu B., *Finanțe*, Suport de curs, anul II, Facultatea de Economie și Administrarea Afacerilor, 2011
- Frankel J., Rose, A., *The Endogeneity of the Optimum Currency Area Criteria*, Economic Journal, 1998, pp.1009-1025
- Gandolfo G., *International Finance and Open-Economy Macro-economics*, Springer-Verlag, Berlin, 2002

- Giovannini A., *The Debate on Money in Europe*, Massachusetts Institute of Technology, Cambridge, 1995
- Goodhart C., *European Monetary Integration*, European Economic Review, 1996
- Grauwe P. D., *Economics of Monetary Union*, Oxford University Press, New York, 2007
- Mancera M., *Characteristics and Implications of Different Types of Currency Areas*, Federal Reserve Bank of Kansas City, Wyoming, 1991
- McKinnon R., *Optimum Currency Areas*, American Economic Review, 1963, pp. 509-517
- Moșteanu T. (coord), *Gestiunea datoriei publice*, Editura Universitară, București, 2008
- Mundell R., *A Theory of Optimum Currency Areas*, American Economic Review 51, 1961
- Nechi F., *Monetary Policy When One Size Does Not Fit All*, FRBSF ECONOMIC LETTER, San Francisco, 2011
- Pentecost E., van, P. A., *European Monetary Integration. Past, Present and Future*, Edward Elgar Publishing, Northampton, 2001
- Pomfret R., *Optimum Currency Area (OCA) Theory*, Princeton University, Princeton, 2009
- Reinhart C., Rogoff K., *From Financial Crash to Debt Crisis*, American Economic Review 101, 2011, pp. 1676–1706
- Stolz S. M., Wedow M., *Government Measures in Support of the Financial Sector in the EU and the United States*, Intereconomics, 2011, pp. 53-60
- Tavlas G., *Optimum-Currency-Area Paradoxes*, Review of International Economics, 2009, pp. 536–551
- Turliuc V., Cocriș V., Stoica O., Roman A., Dornescu V., Chirleşan D., *Monedă și credit*, Editura Junimea, Iași, 2011
- Van Bergeijk P., Brakman S., *The Gravity Model in International Trade: Advances and Applications*, Cambridge university Press, New York, 2010
- Voinea G. ș.a, *Economia financiar-monetară internațională și unele probleme ale lumii contemporane*, Editura Tehnopress, Iași, 2013
- Voinea G., *Finanțe internaționale*, Editura Sedcom Libris, 2010
- Voinea G., *Relații valutare financiare internaționale*, Editura Universității “Alexandru I.Cuza”, Iași, 2007