„ALEXANDRU IOAN CUZA" UNIVERSITY OF IASI
DOCTORAL SCHOOL OF ECONOMICS AND BUSINESS ADMINISTRATION

SUMMARY OF DOCTORAL THESIS

Alternative monetary policy strategies in the context of the single currency adoption

Scientific Supervisor:

Professor: Ovidiu Stoica

PhD Student:

Iulian Vasile Popescu

IAȘI, 2014

The importance of knowing the impact of monetary policy decisions on macroeconomic variables and hence the importance of understanding how monetary policy decisions are adopted, implemented and communicated in order to achieve monetary policy objectives, represent the determinants of my focus on *the topic of monetary policy strategies.* The paper aims to explore the monetary policy strategies used by Central and Eastern European (CEE) states currently on the road to the euro adoption. The analysis is oriented towards the *monetary policy strategy adopted by the monetary authorities in Bulgaria, the Czech Republic, Croatia, Lithuania, Poland, Romania and Hungary,* all committed to adopt the single European currency under the Treaty on European Union (EU).

The actuality of the subject derives from the importance of monetary policy strategies in *meeting the euro area acceding conditions and the impact of the transition to the European Central Bank (ECB) monetary policy strategy on the monetary developments and the real economic activity.* All these, of course, amid *the general implications of the recent financial crisis* affecting the economic science and particularly, monetary policy strategies.

Based on specific parameters and characteristics of the monetary policy strategy components, *the ultimate goal* of the research is *to establish a diagnosis of monetary policy strategies* used by central banks (CBs) in the seven CEE countries, candidates to the Economic and Monetary Union (EMU). *Intermediate objectives* are geared towards *the analysis of the particular features of monetary policy strategies components* that give shape to: the monetary policy decision, monetary policy instruments, final and intermediate objectives, the three-pillar governance framework of central bank (independence, democratic accountability and transparency).

The thesis combines the *quantitative research with qualitative research* based on the use of methods such as external observation, benchmarking, data processing and analysis, synthesis of lessons learned. The quantitative analysis applyes: the *generalized method of moments (GMM), vector error correction (VEC) method*, *vector autoregressive (VAR) method*, *structural VAR (SVAR) and Bayesian techniques estimated VAR (BVAR), Bayesian methods for dynamic stochastic general equilibrium models (DSGE).*

The analysis of monetary policy strategies used by central banks in the countries of Central and Eastern Europe currently committed to the euro adoption, is divided into *six sections.*

The first chapter aims, first, to outline *a conceptual framework for the notion of monetary policy strategy*, addressing its characteristic leading to the objective necessity of a strict definition. Once a clear identification of its specific component is achieved, attention is directed to its core, namely *the nominal anchor* used in the conduct of monetary policy, underlining the importance of its *credibility.* Subsequently, I focused on *the types* of potential monetary strategies to be used by CBs, which are presented comparatively in terms of associated benefits, drawbacks and implementation conditions. The analysis is directed towards both traditional monetary policy strategies (exchange rate targeting, monetary targeting, inflation targeting and implicit nominal anchor) and on the monetary policy strategy applied by the ECB. The high degree of complexity in the choice of optimal monetary policy strategy and its variations in the context of CEE states committed to the euro area accession is highlighted by addressing *the selection criteria* of a distinctive strategy monetary policy. I explored *the evolution and trends* in monetary policy strategies based on the identification of the global status and the return to the selected group of countries. The first section concludes by emphasizing *the lessons drawn from the recent international financial meltdown impact on the monetary policy and the obvious implications on monetary policy strategies used by central banks in the CEE region*, and aims to stress *the* *challenges and alternatives* for EMU acceding states amid the need for *the reconfiguration* of monetary policy strategies.

The second chapter is focused on *final and intermediate monetary policy objectives*, as essential components of monetary policy strategies. The importance of ensuring price stability as a fundamental objective of monetary policy is outlined based on both the identification of *what can and what cannot monetary policy achieve* relative to the manifestation of various shocks within the economy and *the inflation-associated costs*. Closely related to monetary policy objectives, I studied the monetary policy decision in the context of *identifying the major impact generated by financial sector developments*, given that the recent financial crisis highlighted the need for models of analysis and forecast to consider the *financial frictions*, *expand the analysis and estimation horizon*, as well as *the need to incorporate elements of financial stability in the CBs reaction function*. The issue of reconfiguration the final objectives of monetary authorities is investigated based on *the critical role of financial stability for the objectives of CBs*, by successively presenting *the channels* through which monetary policy can influence financial stability, *the approach of asset prices within the monetary policy framework*, and *the interaction between monetary policy and macro prudential policy*. All these, in order to identify the complexity of establishing *a new consensus on the relationship between price stability and financial stability*. I addresses the intermediate goals of monetary policy in the same context marked by growing global implications of the financial crisis, and focused both *on proposals to increase quantitative inflation target* and the two nominal anchors (nominal GDP and the price level) and hence, the two related monetary policy strategies *(nominal GDP targeting and price level targeting)* that returned to the forefront of academic discussions following the confrontation with the zero bound short term nominal interest rates.

Chapter 3 aims *to analyze the final objectives of monetary policy pursued by central banks in CEE states acceding to the euro area.* I obtained a conclusive picture in terms of objectives and their ranking by identifying the behavior of selected monetary authorities in determining the short-term nominal interest rate based on the estimation of a reaction function in the form of a *Taylor-type monetary policy rule*. In this sense, I used *three extensions* of the Taylor rule that take into account the actual country specific factors in the CEE states, all *emerging economies with a high degree of openness in the process of convergence towards the euro area*. In addition, the specific monetary policy rule for selected states includes *financial stability related variables* in order to identify how the CEE monetary authorities have approached the asset prices in the conduct of monetary policy. Subsequently, I studied the impact of the global financial turmoil on the ranking of the CBs final objectives in the context of some *Neo-Keynesian models built for a small open economy*, where the reaction function of CBs is one of the distinctive equations (along with those considered for aggregate demand, aggregate supply and exchange rate dynamics). The estimation of the *dynamic stochastic general equilibrium (DSGE) models* aims to identify *the ultimate goals* pursued by the CEE monetary authorities, *their ranking*, as well as *the determination of some potential changes in their prioritization*, as a consequence of the recent international financial distress. *The innovative elements* of the analysis performed in this section concern *the simultaneous specification of monetary policy Taylor type rules considering the peculiarities of the selected countries and the introduction into the Taylor rules of variables for testing the stance of monetary policy towards financial stability.*

Chapter 4 analyses *the monetary policy operational frameworks* of the CEE states on the road to the single currency adoption. Both the use of *indirect instruments* of monetary policy (open market operations, reserve requirements system, standing facilities) and *instruments of intervention on the exchange rate* are tracked separately from the perspective of monetary policy strategies applied by the selected monetary authorities. In addition, due to the benefits related to the euro area accession and of their high efficiency within the Euro system, I aimed to identify in parallel, *the harmonization degree of monetary policy instruments in the CEE states subject to analysis with the ECB standards.* The major consequence of the recent international turmoil from the perspective of the monetary policy operational framework is the need to use *unconventional monetary policy instruments.* The second part of this section is geared towards presenting *the experiences of CEE states in the process of convergence to the Eurozone relative to the adoption of unconventional monetary policy and the challenges associated with the use of central bank balance sheets as a tool of monetary policy*, in particular the effects resulting from their application and the consequences of the return to conventional instruments.

Chapter 5 analyzes the three essential components of monetary policy strategies, namely *independence, accountability and transparency* of CBs, as the pillars outlining *the governance framework* of the monetary authorities. The three pillars of central banking governance framework are tailored based on the nominal anchor supporting the conduct of monetary policy, and highlight *the associated theoretical and empirical benefits.* The second direction targets *the quantification of the independence, transparency and accountability* of CBs through representative indices that allows comparisons between various monetary policy strategies used by the monetary authorities of the selected CEE states, and between these and the ECB monetary policy strategy. The remainder of this section explores *the potential impact of the worldwide financial crisis on the three pillars of CBs governance framework. The innovative element* result of the analysis performed in this chapter *is the investigation of central banks governance framework, in relation to the nominal anchor in the conduct of monetary policy used.*

Chapter 6 is focused on *the analysis of the monetary policy effects* based on the assumption that *the monetary policy transmission mechanism* has a number of important implications for the euro adoption and the proper functioning of a monetary union. In addition, the identification of mutations in the transmission mechanism ex post the global economic meltdown is critically important for *the shaping of monetary policy decision under the new realities,* characterized by a high degree of uncertainty. Closely related to the above, in this section I perform an empirical analysis of the monetary policy shocks implications on real economic aggregates and prices in the CEE states acceding to EMU relative to the Eurozone, using three methods: *vector autoregression (VAR), structural vector autoregressive (SVAR) and vector autoregression estimated by Bayesian techniques (BVAR).* In this sense, the analysis is directed towards identifying the impact of a contractionary monetary policy shock, customized to the different types of strategies used by CEE central banks, and for the euro area, respectively. The objectives refer to *three specific levels*: *the identification* of effects generated by a monetary policy shock in both the aggregated euro area and for CEE states in the process of convergence separately, depending on the strategies applied by the monetary authorities; *the comparison* of the monetary policy implications across the CEE countries that apply the same monetary policy strategy, between countries using different monetary policy strategies and the comparison of effects with those associated to the aggregate euro area; *determine the impact of the global financial crisis on the monetary policy transmission mechanism promoted by the ECB and the monetary authorities of the CEE selected countries. The innovative elements* returned by the analysis conducted in this chapter are: *the specification of different models* for various monetary policy strategies; *the use of Bayesian-estimated vector autoregression estimated* in the case of CEE region; *the comparative determination of the outcomes driven by the international turmoil on the transmission mechanism* for all these states.

The main results of the research revealed:

From the perspective of monetary policy final objectives:

- A strong stance of the monetary authorities in selected CEE states that apply a strategy of inflation targeting towards their fundamental objective of ensuring price stability and maintaining such an orientation *ex post* the recent financial crisis;
- Inflation targeting was achieved in a flexible form allowing for the stabilization in parallel, of real economic activity and the exchange rate. For the post-crisis period I found a similar orientation of monetary policy towards the stabilization of the real activity and a limited (or unchanged) focus on stabilizing the exchange rate;
- The orientation of the CEE central banks monetary towards ensuring the financial stability, identified primarily on the basis of the critical importance attached to the exchange rate within the considered monetary policy rules;
- The manifestation of a trend, not very strong, of limiting through the monetary policy the uncontrolled expansion of private credit and the forming of an asset price bubble. In other words, the existence of a *leaning against the wind* orientation of the monetary policy applied by the selected monetary authorities. *Ex post* the global financial distress, the increased focused on financial stability has not been achieved by the monetary policy (a non-interference of monetary policy in ensuring financial stability after the crisis).

From the perspective of central banks governance frameworks:

- The upward trend in the last decade and a half of the three pillars of central banks governance framework: independence, transparency and democratic accountability, regardless of the monetary policy strategy used that might increase the credibility and effectiveness of monetary policy;

- Net superior levels of the independence, transparency and accountability in the context of CEE monetary authorities using a strategy of inflation targeting compared to those targeting the exchange rate;
- The simultaneous existence of high degrees of independence and transparency, lower inflation and a higher level of economic development in countries with CBs focused on inflation targeting versus states with monetary authorities targeting the exchange rate;
- The existence of a direct relationship between the three components of the CBs governance framework; however, the linkage is not proportional (there is a lack of accountability and transparency) in most cases.

From the standpoint of monetary policy effects:

- Lack of similarity in the transmission mechanisms of monetary policy in the CEE countries acceding to the euro area and the aggregate EZ, which can cause obvious and strong evidence of asymmetry at the moment of EMU entry;
- A high degree of heterogeneity in the transmission of monetary policy impulses identified from all three perspectives analyzed: speed, persistence and amplitude;
- Increase in the transmission speed of the monetary policy shock, a decrease in the amplitude of the monetary policy shock impact and a reduction (or maintenance) in the persistence of the monetary policy shock effect *ex post* the global financial crisis, regardless of strategy monetary policy used;
- Lower importance of the interest rate, the exchange rate, bank lending and asset prices channels in the Eurozone; the diminishing of the role of the three transmission channels in the analyzed CEE states with CBs geared towards targeting the exchange rate; the maintaining, in general, of the role of the exchange rate channel, higher significance of the interest rate channel and smaller importance of the bank lending channel and the asset price

channel in the CEE countries with national monetary authorities targeting inflation targeting in the period after the recent global financial crisis.

SELECTIVE BIBLIOGRAPHY

I. BOOKS

- Baldwin, R., Reichlin, L. (ed.) (2013) *Is inflation targeting dead?*, London: Centre for Economic Policy Research e-book.
- Beblavy, M., Cobham, D., L'udovit, O. (ed.) (2011) *The euro area and the financial crisis*, Cambridge: Cambridge University Press.
- Bracke, T., Martin, R. (ed.) (2012) *From crisis to recovery: old and new challenges in emerging Europe*, Basingstoke: Palgrave Macmillan.
- Caraiani, P. (2009) *Modele de politică monetară. Aplicații pe cazul României*, București: Wolters Kluwer.
- Cerna, S. (2009) *Economie monetară*, Timişoara: Editura Universităţii de Vest.
- De Grauwe, P. (2012) *Economics of Monetary Union*, ninth edition, Oxford: Oxford University Press.
- Healey, N, Harrison, B. (ed.) (2012) *Central banking in Eastern Europe*, London: Routledge.
- Houben, A. (2000) *The evolution of monetary policy strategies in Europe*, Boston: Springer.
- Friedman, B., M., Woodford, M. (ed.) (2011) *Handbook of Monetary Economics*, Volumes 3A, 3B, North-Holland: Elsevier.
- Jarocinski, M., Smets, F., Thimmann, C. (2011) *Approaches to monetary policy revisited: lessons from the crisis*, Frankfurt: European Central Bank.
- Laurens, B., J., Arnone, M., Segalotto, J., F. (2009) *Central Bank Independence, Accountability and Transparency. A Global Perspective*, New York: Palgrave Macmillan.
- Mishkin, F., S. (2012) *The Economics of Money, Banking, and Financial Markets*, tenth edition, Essex: Pearson International Edition.
- Nowotny, E. (2011) *The euro's contribution to economic stability in Central, Eastern and Southeastern Europe: is euro adoption still attractive?*, Cambridge: Cambridge University Press.
- Roman, A. (2009) *Politici monetare*, Iaşi: Editura Universităţii Alexandru Ioan Cuza.

- Siklos, P., L., Sturm, J., E. (2013) *Central bank, communication, decision making, and governance: issues, challenges, and case studies*, Cambridge: MIT Press.

II. ARTICLES

- Bayoumi, T., Dell'Ariccia, G., Habermeier, K., Mancini-Griffoli, T., Valencia, F., IMF Staff Team (2014) *Monetary Policy in the New Normal*, IMF Staff Discussion Note 14 (Washington: International Monetary Fund).
- Blanchard, O., Dell'Ariccia, G., Mauro, P. (2013) *Rethinking Macro Policy II: Getting Granular*, IMF Staff Discussion Note for a conference on "Rethinking Macroeconomic Policy II,"April 16–17 (Washington: International Monetary Fund).
- Caraiani, P. (2013) *Comparing Monetary Policy Rules in CEE Economies: A Bayesian Approach*, Economic Modelling 32, pp. 233-246.
- Cerna, S. (2012) *Central banks, monetary policy and financial stability*, Timisoara Journal of Economics 5(18), pp. 336-379.
- Croitoru, L. (2014) *The liquidity trap, democracy and central bank independence*, Scientific Annals of the "Alexandru Ioan Cuza" University of Iasi, Economic Sciences Section 61(1), pp. 17-30.
- Dincer, N., Eichengreen, B. (2009) *Central bank transparency: Causes, consequences and updates,* NBER Working Paper 14791 (Cambridge: National Bureau of Economic Research).
- Filácek, J., Horváth, R., Skorepa, M. (2006) *Monetary Policy before Euro Adoption: Challenges for EU New Members,* William Davidson Institute Working Paper 853 (Michigan: William Davidson Institute).
- Frömmel, M., Garabedian, G., Schobert, F. (2011) *Monetary policy rules in Central and Eastern European Countries: Does the exchange rate matter?*, Journal of Macroeconomics 33, pp. 807–818.
- Geraats, P., M. (2009) *Trends in monetary policy transparency*, International Finance 12(2), pp. 235–268.
- Hammond, G. (2012) *State of the art of inflation targeting*, CCBS Handbook 29 (London: Centre for Central Banking Studies).
- Isărescu, M. (2012) *Politica monetară în perioada tranziţiei. Gestionarea modificărilor de paradigmă*, in Public Policies & the Direction of Financial Flows, prezentare susţinută cu ocazia conferinţei anuale a Asociaţiei Europene de Istorie Bancară, Bucureşti, 7-9 iunie.

- Issing, O. (2011) *Lessons for Monetary Policy: What Should the Consensus Be?*, Working Paper 11/97, (Washington: International Monetary Fund).
- Lubik, T., Schorfheide, F. (2007) *Do Central Banks Respond to Exchange Rate Movements? A Structural Investigation*, Journal of Monetary Economics 54(4), pp. 1069-1087.
- Łyziak, T., Przystupa, J., Stanisławska, E., Wróbel, E. (2011) *Monetary policy transmission disturbances during the financial crisis. A case of an emerging market economy*, Eastern European Economics 49(5), pp. 30-51.
- Mishkin, F., S. (2011) *Monetary Policy Strategy: Lessons from the Crisis*, NBER Working Paper 16755 (Cambridge: National Bureau of Economic Research).
- Munoz, F., Schmidt-Hebbel, K. (2012) *Do the World's Central Banks React to Financial Markets?*, in Financial Deepening, Macro-Stability and Growth in Developing Countries: proceedings of the International Monetary Fund conference, edited by International Monetary Fund, Washington, pp. 1-27.
- Orlowski, L., T. (2010) *Monetary Policy Rules for Convergence to the Euro*, Economic Systems 34, pp. 148–159.
- Orphanides, A. (2013) *Is Monetary Policy Overburdened?*, BIS Working Paper 435 (Basel: Bank for International Settlements).
- Smets, F. (2013) *Financial Stability and Monetary Policy: How Closely Interlinked?*, in Two Decades of Inflation Targeting and Remaining Challenges: Proceedings of the conference organized by Sveriges Riskbank, edited by Sveriges Riskbank, Stockholm, pp. 121-160.
- Svensson, L., E., O. (2012) *The relation between monetary policy and financial stability policy*, International Journal of Central Banking 8(1), pp. 293-295.
- Woodford, M. (2012) *Inflation Targeting and Financial Stability*, Sveriges Riksbank Economic Review 1, pp.7-32.