

RESEARCH NEWSLETTER

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I. FRIDAY SEMINARS

During the first half of 2015, research papers, presented and discussed in “Friday Seminar Series”, addressed various issues related to: macroeconomic factors of credit risk, fiscal sustainability in Albania, financial markets development in Europe; and (non)rationality of inflation expectations in Albania. A detailed summary of the papers follows in the next section.

IMPACT OF MACROECONOMIC FACTORS ON CREDIT RISK, BY MERI PAPA VANGJELI, RESEARCH DEPARTMENT

The recent crisis showed that the fragility of the financial system is not only a consequence of endogenous factors, but also of developments, which occur in the macroeconomic and financial environment. The purpose of this paper is to analyse the relationship between factors that characterize the macroeconomic environment (such as: Gross Domestic Product, house prices, exchange rate, interest rate, total loans to private sector) and credit risk to which

the Albanian banking system is exposed. The applied methodology consists in the estimation of a Vector Error Correction Model, which allows investigating the relationships between these indicators and the speed at which they adjust to the long-run equilibrium.

DEVELOPMENTS IN THE EUROPEAN FINANCIAL MARKETS AND IN THE INVESTMENT PORTFOLIO OF INSURANCE COMPANIES IN ALBANIA COMPARED TO AUSTRIA, BY ELVIS PONARI, REGIONAL REPRESENTATIVE OF UNIQA INSURANCE GROUP AG

The research focused on the development of financial markets in Europe, illustrated by data and statistics from the European insurance market vis-à-vis the Albanian insurance market. Also, it presented an analysis of investment portfolios of insurance companies in Austria and Albania and a description of concerning issues related to the insurance market in Albania, such as: lack of diversification, low competition, poor infrastructure and inadequate climate for innovations.

FISCAL SUSTAINABILITY AND THE ASSESSMENT OF FISCAL VULNERABILITIES IN ALBANIA, BY ANJEZA JAHAJ AND IRIS METANI, MONETARY POLICY DEPARTMENT

Compiled in the form of a theoretical and practical manual built on macro identities, this paper analyses the sustainability of public debt in Albania. The material aims at improving the analytic capacity to assess public debt sustainability and identify the risks to which the government's solvency is exposed. The International Monetary Fund publications on this topic served as a theoretical basis and a layout to structure this analysis. The public debt's sustainability in Albania, according to this approach, is assessed through an exercise that builds around a baseline scenario regarding the projected trajectories of public debt and gross financing needs as a ratio to GDP. The baseline scenario, over the five-year period, is completed with alternative scenarios, for specific risk factors. The paper also assesses liquidity and solvency risks of fiscal agents that originate from public debt, the structure and the gross financing needs.

INFLATION EXPECTATIONS IN ALBANIA: RATIONAL OR NOT? – ASSESSMENTS FROM SURVEYS, BY EVELINA ÇELIKU, GENTI HASHORVA AND MERITA TOSKA, MONETARY POLICY DEPARTMENT

Given the importance of inflation expectations for the monetary policy, their nature needs to be analysed: rational or adaptive? This is particularly crucial for the inflation targeting regime implemented in recent years at the Bank of Albania. This analysis is based on inflation expectations

series taken from Bank of Albania surveys for the period 2003Q2-2015Q1. The series of qualitative expectations are quantified by using various probability and balance approaches, in addition to quantitative ones. Statistical analyses show that the surveyed inflation expectations provide useful information relevant to the direction of future inflationary pressures. Rationality test results confirm the mixed nature of expectations; until 2009, they had been entirely adaptive. Although expectations continue to be dominated by the adaptive nature, some have adopted rational features during the years. The extension of expectations time series, the improvements regarding their quantification and the higher transparency in communicating the monetary policy have helped to identify the rational features. In terms of rational expectations contribution to forecasting inflation, econometric assessments suggest an increase in both the value and size of the leading inflation parameter; in the current calibration, this parameter stands at a minimum rate.

II. RECENTLY CONCLUDED RESEARCH PAPERS

BANK RISK TAKING AND COMPETITION IN THE ALBANIAN BANKING SECTOR, BY ELONA DUSHKU, RESEARCH DEPARTMENT

Exploring the link between competition and bank risk is an important issue for financial stability and the whole economy. Using Albanian banking data, we test empirically the relationship between bank risk and competition during 2004-2014. Our results confirm the “competition-fragility” view for the total (and foreign) credit risk, where higher market power is associated with lower risk. We also find some elements of the “competition-stability” view for non-performing loans in the local currency. We provide evidence showing that, after the crisis, the relationship between total (and foreign) credit risk and competition is nonlinear.

THE MACROECONOMIC PASS-THROUGH EFFECTS OF MONETARY POLICY THROUGH SIGN RESTRICTIONS APPROACH: IN THE CASE OF ALBANIA, BY GERTI SHIJAKU¹, RESEARCH DEPARTMENT

Many central banks have been cutting interest rates to historic low in order to counter the risks arising from the global financial crisis turmoil. This policy has been accomplished by embarking also balance sheet policy response actions. These policies are aimed at restoring the confidence in the financial system,

¹ This study is conducted in the framework of the Bilateral Assistance and Capacity Building for Central Banks Program between the Bank of Albania and the Geneva Graduate Institute and SECO.

lowering the bank and sovereign credit risk, and boosting the economic growth and anchoring the inflation expectation. This paper examines the transmission mechanism of monetary policy in Albania during 2002 M1 - 2014 M12. The main question addresses the macroeconomic pass-through effects of a monetary policy shock, with regards to interest rate and possible balance sheet policy changes. The analysis is based on a structural vector autoregressive model for the Albanian economy that includes the Cholesky identification scheme and the sign restrictions approach.

III. RESEARCH PAPERS IN PROGRESS

MICRO AND MACROECONOMIC DETERMINANTS OF NET INTEREST MARGINS IN ALBANIA (2002-2014), BY ERALDA LEKA, MONETARY POLICY DEPARTMENT AND MERI PAPA VANGJELI, RESEARCH DEPARTMENT

Including for the first time macroeconomic variables in the empirical analysis with panel data for commercial banks, this paper aims to shed light on the determinants of net interest margin in the Albanian banking sector. Considered as a good indicator of the level of banking intermediation efficiency, margin size helps to perceive asymmetries in the banking market and the costs transmitted to clients. The purpose of this paper is to contribute to the design of a monetary policy that increases the efficiency of the banking market and ensures its well-functioning.

DOES TRADE OPENNESS (FOREIGN TRADE) INFLUENCE ENTERPRISES' PERFORMANCE IN ALBANIA AND SEE COUNTRIES? BY ALBAN PLLAHA, RESEARCH DEPARTMENT

Utilizing firm-level data from the World Bank Enterprise Survey database, this paper generates a panel data for Albanian and regional countries' enterprises. The main aim is to identify whether trade openness (foreign trade exposure) influences enterprises' performance in terms of: productivity, size, growth performance, innovation, etc. This study aims to offer a detailed analysis on enterprises operating in the Albanian

economy, and their situation, compared to enterprises operating in regional countries. A preliminary analysis of the data suggests that enterprises exposed to foreign trade (import/exporting firms) perform better than enterprises which operate only in the domestic market.

CONDITIONAL DENSITY ESTIMATION – A GENERALIZATION OF CONDITIONAL DENSITY. APPLICATION ON ECONOMIC DATA, BY ALTIN TANKU AND KLITI CECA, RESEARCH DEPARTMENT

This paper aims to provide a natural generalization of the conditionality concept on the density estimates for multi-dimensional densities. A new generalized definition of the conditional density standard definition is given, as an authentic result. This new concept is applied in a set of quarterly economic variables of the US economy, which cover the period 1959 – 2014 for five main macroeconomic variables. The results are simulated for four sub-periods of the above-mentioned interval, which correspond to four different governors.

PARAMETERIZATION IN THE MODELS BASED ON ESTIMATED DENSITIES. A GENERAL APPROACH, BY ALTIN TANKU AND KLITI CECA, RESEARCH DEPARTMENT

The paper provides various ways of parameterization in models built using the concept of estimated densities and a new generalized definition of the concept of parameterization. The literature on the

parameterization of stochastic models is studied and also potential scenarios are determined, to which the new defined parameterization methodology will be applied. More specifically, the authors propose concrete optimization technics in functional spaces. Five dimensional estimated densities are calculated based on two macroeconomic databases – one for the Albanian economy and the other for the US economy. The applications on the selected scenarios for generation of the parameters matrix and the description of the economic patterns derived from them are yet to be realised.

A SIMPLE SUGGESTION FOR THE IMPLEMENTATION OF THE IRB APPROACH UNDER BASEL II, BY LINDITA VRIONI, RESEARCH DEPARTMENT

While the banks have recognized the need for more sophisticated methods for measuring credit risk, in response to the increasing complexity and globalization of their activities, even the largest banks in the banking system have not registered a sufficient number of “defaults” and losses from certain asset classes that would enable them to estimate parameters of an internal model for measuring credit risk (by the IRB).

This paper proposes to conduct a transitional process where some of the necessary parameters can be estimated and determined by using data collected throughout the banking system in the Credit Registry (from five years) and the construction of a Supervisory Model for measuring credit risk. The model will provide valuable information for careful assessment of the capital adequacy of

banks and in the future will be used to validate the individual bank’s models.

THE IMPACT OF PRIVATIZATION ON THE PERFORMANCE OF ENTERPRISES IN CENTRAL AND EASTERN EUROPE, BY MARGERITA TOPALLI, RESEARCH DEPARTMENT

This paper aims to respond to a wider debate that exists in literature on the effects of privatization (transition from a state enterprise into a private enterprise) on the performance of enterprises. This material is based on the study of Frydman et al. (1999), which investigates the effects of privatization in the transition countries. The database is collected from the EBRD (Enterprise Survey), which comprises data on performance, employment, type of ownership, etc.

FINANCIAL SECTOR DEVELOPMENT AND ACCESS AND ECONOMIC GROWTH, BY ENDRIT YZEIRAJ, RESEARCH DEPARTMENT

This paper aims at analysing the growth and development of the financial sector in Albania and studies the impact of the latter on the Albanian economy. The literature dealing with advanced countries has identified various cases where financial sector development may lose its usefulness to the overall economy. In contrast to the advanced economies, some more specific aspects of the financial system growth in the emerging economies are of interest. This paper deals with some of them for the Albanian economy. In more concrete terms, the fast growth of the financial sector in the second half of the past decade, even faster than the economic growth, is one

of the most debated issues in the current literature. Also, the financial system appears not to have been accessible by all classes of people. The high concentration of the financial system in some sectors and classes of the economy would lead to a reduction of its efficiency. The econometric standard techniques for the time series will constitute the methodology used in this paper.

IV. ARTICLES

This section briefly summarizes some articles and papers published by the Bank of Albania or other central banks to provide an overview on research topics published during January- June 2015, in order to provide a better view on research and scientific topics published during this period.

THE USEFULNESS OF ARTIFICIAL NEURAL NETWORKS IN FORECASTING EXCHANGE RATES, BY BLERINA VIKA, FACULTY OF ECONOMY, UNIVERSITY OF TIRANA, KOZETA SEVRANI FACULTY OF ECONOMY, UNIVERSITY OF TIRANA, ILIR VIKA, BANK OF ALBANIA

This article contributes to the neural network literature by demonstrating how potent and useful they can be as a tool in the process of economic and financial decision making. We probe into the usefulness of Nonlinear Autoregressive Networks (NAR) in comparison to the ARIMA models that are commonly used as a benchmark for forecasting exchange rates. To demonstrate it, we chose the USD/EUR exchange rate, as a considerably volatile and a highly

transacted asset in the international financial market, yet very disputed in academic works due to its often large divergences from the fundamental levels suggested by economic theories.

We were able to show that, while through a modest application, neural network models can add value and possibly outperform traditional models used to forecast exchange rates. The results were affirmative that the nonlinear autoregressive net consistently beat the ARIMA (and the random walk) static forecasts of the USD/EUR exchange rate.

LERNER INDEX- BANKS' POWER INDEX IN ALBANIA, BY ELONA DUSHKU, RESEARCH DEPARTMENT, ECONOMIC MAGAZINE OF THE BANK OF ALBANIA, 2015 H1

Competition in the banking system has been and continues to be an issue of great interest, not only due to its importance in the banking and financial system, but also due to its impact on the entire economy. The relationship between competition and banking system risk, regarding only its impact on the

real and financial sector, has obtained more attention in recent years [Beck, (2008), Beck et al, (2012)]. Testing these relationships and obtaining stable results requires initially the measurement and estimation of a rather accurate assessment of competition. The purpose of this article is to measure competition of banks that operate in Albania, based on a non-structural approach. The obtained assessments show that competition of banks in Albania, in the period 2004-2014, measured by Lerner Index stands between the complete competition and the monopolistic one.

SAM TABLES OF ALBANIA: STRUCTURE AND MULTIPLIERS, BY ENIAN ÇELA, RESEARCH DEPARTMENT, ECONOMIC MAGAZINE OF THE BANK OF ALBANIA, 2015 H1

A Social Accounting Matrix (SAM) represents flows of all economic transactions that take place within an economy during one year. This article introduces the latest statistics of national accounts related to Supply-Use and Input-Output tables in the case of Albania. These statistics report all the transactions taking place during one year for our economy in the period 2009-2011 in nominal terms. In this research, the overall description of the three types is accompanied with the calculation of multipliers for output, income, imports and domestic product for 25 sectors included in the statistics. The same multipliers are calculated for the components of aggregate demand. At the end, some of the overall characteristics and structural risks to the economy according to these statistics are emphasized.

FISCAL MULTIPLIERS AT THE ZERO LOWER BOUND: THE ROLE OF POLICY INERTIA, BY TIMOTHY S. HILLS, TAISUKE NAKATA, FEDERAL RESERVE

The presence of the lagged shadow policy rate in the interest rate feedback rule reduces the government spending multiplier nontrivially when the policy rate is constrained at the zero lower bound (ZLB). In the economy with policy inertia, increased inflation and output due to higher government spending during a recession speeds up the return of the policy rate to the steady state after the recession ends. This, in turn, dampens the expansionary effects of the government spending during the recession via expectations. In our baseline calibration, the output multiplier at the ZLB is 2.5 when the height on the lagged shadow rate is zero and 1.1 when the height is 0.9.

<http://www.federalreserve.gov/econresdata/feds/2014/files/2014107pap.pdf>

THE MACROECONOMIC EFFECTS OF THE FEDERAL RESERVE'S UNCONVENTIONAL MONETARY POLICIES, BY ERIC M. ENGEN, THOMAS T. LAUBACH, DAVID REIFSCHNEIDER, FEDERAL RESERVE

Using the Federal Reserve macromodel (FRB/US), authors aim to estimate the effects of non-conventional policies in the US economy. The study utilizes data from the Blue Chip Economic Indicators to infer changes in private-sector perceptions of the implicit interest rate rule that the Federal Reserve would use following lift-off from the effective lower bound and

estimates derived from other studies regarding the effects of the Federal Reserve's quantitative easing programs on term premiums. Authors' analysis suggests that the net stimulus to real activity and inflation was limited by the gradual nature of the changes in policy expectations and term premium effects, as well as by a persistent belief on the part of the public that the pace of recovery would be much faster than proved to be the case. The analysis implies that the peak unemployment effect does not occur until early 2015, while the peak inflation effect is not anticipated until early 2016.

<http://www.federalreserve.gov/econresdata/feds/2015/files/2015005pap.pdf>

CAUSES AND CONSEQUENCES OF INCOME INEQUALITY: A GLOBAL PERSPECTIVE, BY ERA DABLANORRIS, KALPANA KOCHHAR, NUJIN SUPHAPHIPHAT, FRANTISEK RICKA, EVRIDIKI TSOUNTA, INTERNATIONAL MONETARY FUND

The objective of this paper is, first, to show why policymakers need to focus on the poor and the middle class. The analysis suggests that the income distribution itself matters for growth as well. Specifically, if the income shares of the top 20% (the rich) increases, then GDP growth actually declines over the medium term, suggesting that the benefits do not trickle down. In contrast, an increase in the income share of the bottom 20% (the poor) is associated with higher GDP growth.

Second, authors investigate what explains the divergent trends in inequality

developments across advanced economies and emerging and developing economies, with a particular focus on the poor and the middle classes. Our analysis suggests that technological progress and the resulting rise in the skill premium (positives for growth and productivity) and the decline of some labour market institutions have contributed to inequality in both advanced economies and emerging and developing economies.

<http://www.imf.org/external/pubs/ft/sdn/2015/sdn1513.pdf>

MONETARY POLICY INDEPENDENCE UNDER FLEXIBLE EXCHANGE RATES: AN ILLUSION? BY SEBASTIAN EDWARDS, NATIONAL BUREAU OF ECONOMIC RESEARCH

The aim of this study is to estimate whether countries with flexible exchange rates are able to pursue an independent monetary policy, as suggested by traditional theory. The author uses data for three Latin American countries with flexible exchange rates, inflation targeting, and capital mobility – Chile, Colombia and Mexico – to investigate the extent to which Federal Reserve actions are translated into local central banks' policy rates. The results indicate that there is significant "policy contagion" and that these countries tend to "import" Fed policies. The degree of monetary policy independence is lower than what traditional models suggest.

<http://www.nber.org/papers/w20893.pdf>

V. OTHER ACTIVITIES

TECHNICAL SEMINARS

In the framework of the Medium-Term Development Strategy of Research at the Bank of Albania, the Research Department organizes informative technical seminars and/or workshops on various issues, and phenomena of interest. A summary of seminars held during January-June 2015, is provided in the following.

OVERALL KNOWLEDGE ON BEHAVIORAL ECONOMICS, BY ALTIN TANKU, ENDRIT YZEIRAJ, MARGERITA TOPALLI, ALBAN PLLAHA, RESEARCH DEPARTMENT

The aim of this seminar was to introduce behavioural economics, one of the new research fields where the science of economics is heading to. The seminar was mainly focused on the main models used to represent rational and non-rational behaviour of economic agents. The literature shows that there is not a good, widely-accepted standard to model non-rational behaviour. Furthermore, researches focusing on specific economic issues have a duty to model non-rational behaviour caused due to various reasons. The use of studies from the field of psychology and the establishment of experiments to better understand the behaviour of agents are two topics that experts of behavioural economics are currently working on. Research and models employed by economists, including those related to Albania, may not escape the fact that very rarely the real economy is a

result of entirely rational behaviours.

SAM TABLES OF ALBANIA: STRUCTURE AND MULTIPLIERS, BY ENIAN ÇELA, RESEARCH DEPARTMENT, ECONOMIC MAGAZINE OF THE BANK OF ALBANIA, 2015 H1

A Social Accounting Matrix (SAM) represents flows of all economic transactions that take place within an economy during one year. The Sources-Use and Input-Output tables in the case of Albania report all the transactions taking place during one year for our economy in the period 2009-2011 in nominal terms. The overall description of three types is accompanied with the calculation of multipliers of output, imports and domestic product for 25 sectors included in statistics. The same multipliers are calculated for the components of aggregate demand. At the end, some of the overall characteristics and structural risks to the economy according to these statistics are analysed.

A FISCAL RULE IN THE MEAM MACRO MODEL, BY LORENA SKUFI, RESEARCH DEPARTMENT

The purpose of this seminar was to introduce the implementation of a fiscal rule in the MEAM macro model, which would provide the accurate addressing of the fiscal policy issue and the assessment of the impact of exceeding fiscal limits in economy. The seminar dealt with the description of different types of fiscal rules and the description of the fiscal

rule implemented in the MEAM model. The results of a model simulation with and without the fiscal rule and their comparison were introduced as well.

INTEREST RATE PASS-THROUGH IN ALBANIA, BY ESIDA ABAZAJ, RESEARCH DEPARTMENT

The seminar provided preliminary results of the research work, which aimed to investigate interest rate pass-through from policy rate to interest rates of the interbank, primary and retail (loans and deposits) markets over the period 2002M01:2014M06. Understanding the process of interest rate pass-through is very important for a central bank, because its speed and magnitude will determine the efficiency of the monetary policy transmission. Preliminary results show that the response of interest rates of interbank and primary market is high and statistically significant and relatively fast, to monetary policy impulses. The response of loans and deposits interest rates is sensitive to sample size.

MICRO- AND MACROECONOMIC DETERMINANTS OF NET INTEREST MARGIN IN ALBANIA (2002-2014) – BY ERALDA LEKA, MONETARY POLICY DEPARTMENT AND MERI PAPA VANGJELI, RESEARCH DEPARTMENT

This workshop explained the methodology used for the analysis of the variables included in the model and presented the preliminary results of the work. Attention was paid to macroeconomic indicators such as the real economic growth, inflation, exchange rate, interest rate and Euribor, which are included for the first

time in the net interest margin analysis for the Albanian banking sector. Preliminary results suggest that these indicators have a significant impact in determining the behaviour of the banking margin in Albania. However, the upcoming analysis will give more accurate results regarding this issue.

BILATERAL ASSISTANCE AND CAPACITY BUILDING FOR CENTRAL BANKS PROGRAM

In the framework of Bilateral Assistance and Capacity Building for Central Banks Program (BCC), Prof. Thorsten Beck, on 19th -21st May and 25th-27th May 2015, held a seminar on the Instruments of Macro prudential Policy. Thorsten Beck is a professor of banking and finance at Cass Business School in London and one of the most renowned academics of scientific research for his publications on the relationships between finance and economic development and the needed policies for building an effective and sound financial system. The aim of this seminar was to describe the theoretical and empirical concepts of financial stability, its various measures, the macro prudential instruments and the importance of cross-border banking, banking interrelations and the role of the union banking in the Albanian context. In the second part, the seminar focused on the interrelationship between monetary policy and the macro prudential policy, and between banking stability competition and systemic risk measurement.

The second seminar that took place in the first half of 2015, was on the Assessment of DSGE Models, lectured by Dr. Refet Gürkaynak. This seminar

was organised in the framework of the Research Department endeavours to design a DSGE model aiming to pursue the theoretical work started in June 2014 (2-6 June 2014), lectured by Celine Poilly (topic "Designing DSGE Models") to propose a DSGE model with the data of

the Albanian economy. Prof. Gürkaynak addressed the theoretical framework of DSGE models and their role in explaining the economic phenomena. The last day of the seminar addressed issues with regard to the structuring and the recording of a simplified DSGE model in the DYNARE program.

LINKS:

Banca d'Italia

<http://www.bancaditalia.it/studiricerche>

Banco de Espana

<http://www.bde.es/informes/be/docs/docse.htm>

Bank of England

<http://www.bankofengland.co.uk/publications/workingpapers/index.htm>

Bank of Finland

http://www.bof.fi/en/julkaisut/bofit_julkaisut/index.htm

Bank of Greece

<http://eng.bankofgreece.gr/en/publications/research.asp>

Czech National Bank

<http://www.cnb.cz/en/research/>

Deutsche Bundesbank

http://www.bundesbank.de/vfz/vfz_diskussionspapiere_2009.en.php

European Central Bank

<http://www.ecb.int/home/html/researcher.en.html>

Oesterreichische Nationalbank

http://www.oenb.at/en/presse_pub/research/research.jsp

Federal Reserve

<http://www.federalreserve.gov/econresdata/default.htm>

BIS Central Bank Research Hub

<http://www.bis.org/cbhub/index.htm>

International Journal of Central Banking

<http://www.ijcb.org/>

National Bureau of Economic Research

<http://www.nber.org/>

International Monetary Fund

<http://www.imf.org/external/pubind.htm>

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