

RESEARCH NEWSLETTER

Contents

I. RESEARCH PAPERS	2
II. RESEARCH ACTIVITIES	6
III. LINKS OF OTHER INSTITUTIONS	9

The 27th issue of the publication "Bank of Albania's Scientific Newsletter" reflects the most recently concluded research papers, research work in progress, articles, and the main research activities organized by the Bank of Albania's economists in the second half of 2021.

I. RESEARCH PAPERS

1.1. RECENTLY CONCLUDED RESEARCH PAPERS

Scientific research activities at the Bank of Albania during this period were oriented towards empirical materials and analyses with a focus on topics related to digital currencies, monetary policy, financial stability, demographic developments, financial culture in households, etc. In summary they are presented below.

"Digital Currencies Impact on Financial Stability and Financial Cycle", by Natasha Ahmetaj (Second Deputy Governor), Bledar Hoda (Research Department), Livia Nikolla and Arisa Saze (Financial Stability Department), Bank of Albania

We consider three different classes of digital currencies, floating price digital currencies, stablecoins and central bank digital currencies (CBDC) and assess their potential to gain wide use as means of payment or as store of value. Basic criteria

relative to fiat currency like (i) the easiness to do transactions, (ii) price volatility, (iii) the probability of default and (iv) the access to currency are used to rank private digital currencies and the CBDCs to assess such potential to gain broad public acceptance. Stablecoins have a better premise to spread further. We review key implications the spread of DCs could have for financial stability and highlight that stablecoins introduce many of the common risks that would prevail in an unregulated traditional financial system. Having the unit of account function attached, makes stablecoins even more challenging, both as a means of payment and as a store of value. In particular, we emphasize that the risks from the growth of stablecoin ecosystems may lead to greater disintermediation, greater probability of bank runs and stronger cross-border spillover effects and can be amplified by financial cycles of a greater magnitude. Risks arising from broader use of FinTech products and services are also a source of

instability for the financial system, when the latter is directly or indirectly exposed to such products.

“Does money have a role in the monetary transmission mechanism in Albania?”, by Altin Tanku and Ilir Vika, Research Department, Bank of Albania

Due to economic and financial circumstances in the last decade, the central bank has been forced to gradually reduce its policy rate from above 5 percent in the beginning of 2010 to just about 1 percent in the middle of 2016. The monetary policy has since then operated at this low historical level on concerns of below-target inflation rate, even though economic activity has been growing at just below its potential rate. The maintenance of policy rate at very low levels for a number of years and the failure to return the inflation rate to its objective has cast doubt on the efficiency of monetary policy operations through the interest rate setting framework. Moreover, as the domestic economy has in the more recent period been struggling with the shocks and uncertainties stemming from government measures to handle the Covid-19 pandemic effects, the interest on re-assessing the efficacy of monetary policy instruments in the transmission mechanism has gained momentum. This paper tries to evaluate the empirical validity of the importance of money as an information variable by using a small VAR model. Our preliminary results call into question the current view that monetary policy stance can be described with exclusive reference to interest rate shocks and without consideration of movements in monetary aggregates. Using especially broad money and disentangling money demand from money supply shocks is found to help in improving the VAR analysis and getting rid of exchange rate and liquidity

puzzles. Monetary indicators could serve as information variables to prices and the exchange rate, but not so to real economic activity, as captured by gross domestic product.

“Demand and supply in the banking loan market: Has Albania experienced a crisis (disequilibrium) episode after the global financial crisis?”, by Gerti Shijaku, Research Department, Bank of Albania

This paper presents an empirical investigation of the hypothesis of the existence of a possible credit crunch (rationing) episode in the credit market in Albania focusing particularly in the period after global financial crisis. Using macroeconomic and banking sector data over this period, we disentangle credit demand and credit supply by estimating a dynamic disequilibrium model of the Albanian credit market with a standard VAR approach. Analysis includes credit market to firms (and to households). Results are cross-checked by the insights from the bank lending surveys. The main results do not support a relatively strong credit market disequilibrium in Albania that would be related particularly with credit crunch episodes. Results, however, do provide evidences that support credit rationing hypothesis in case of both firms and households. Such episodes are found to take place from demand-side and supply-side. Similarly, this episodes are found to last longer in the case of firms. At the same time, the magnitude of credit rationing is also found to be bigger in the case of firms.

“Assessing the Impact of Global Macroeconomic Conditions for Capital Flows in Albania”, by Bledar Hoda, Research Department, Bank of Albania

Capital flows are critical for emerging small open economies. While economic growth,

consumption smoothing and risk sharing rely on the smooth flow of capital flows, macroeconomic dynamics are strongly dependent on the fluctuations of those flows. In this paper I explore the impact of global macroeconomic conditions for gross and net capital flows to Albania. Results that emerge highlight the strong impact of uncertainty index VIX in the global financial markets, commonly identified with global financial cycle, as a key driver of both gross and net capital flows. At the same time, Euro area variables like Dow Jones Eurostoxx and aggregate demand emerge as key drivers of different types of gross inflows like gross direct investment and total gross equity and fund shares. Those results lend support to earlier findings that foreign shocks account for a large share of business and financial cycle fluctuations in Albania.

“Assessing the effects of demographic changes on the Albanian economy”, by Meri Papavangjeli, Research Department, Bank of Albania

Demographic changes may have important implications for monetary policy, especially when nominal interest rates are on the zero lower bound. This paper simulates Gertler's model with time-varying demographics and constant productivity growth and fiscal variables, in order to quantify the impact of demographic change on real interest rates and to investigate the response of macroeconomic variables to demographic shocks. Empirically, a calibrated version of the model is utilized to discuss a number of macroeconomic scenarios for the Albanian economy within a horizon of around 20 years and even 100 years, using the UN projections for certain demographic indicators. The main finding of the paper is that demographic changes have contributed slowly over time to a decline in the

equilibrium interest rate, and their effects are supposed to continue in the coming years as well, which might call for monetary policy reactions in order to dampen their adverse effects on several economic indicators.

1.2. RESEARCH PAPERS IN PROGRESS

“Albanians' financial resilience: Does financial education matter?”, by Elona Dushku, Research Department, Bank of Albania

The global financial crisis and the pandemic (Covid-19) highlighted the importance of households' financial well-being of in their resilience in the face of shocks such as: sudden drop in income, job loss or unexpected expenses. The purpose of this paper is to explore the financial sustainability of Albanians based on the data of the Survey on Adult Financial Culture in Albania, conducted by the Bank of Albania in 2019. Furthermore, it aims to assess the importance of the individual's financial culture in terms of his financial sustainability.

“Performance of the Albanian banking system after the global financial crisis”, by Fiqiri Baholli, Research Department, Bank of Albania

The banking system in Albania constitutes the main weight of the financial system playing an important role in financial intermediation in the country. As a result, analysing its performance, mainly after the global financial crisis, is of interest to identify the items that have contributed the most to it. The performance analysis for the entire banking system in the period 2010 - 2020 was done on the adapted Dupont model by David Cole (1972) looking at the correlations between the average return on equity (ROE) and the average return on

assets (ROA), as well as other components. The paper was conducted using mainly comparative and exploratory methods, suggested by the literature. Argumentation of the results is provided using the statistical database of the Bank of Albania.

1.3. RESEARCH ARTICLES

“The bank lending channel and monetary transmission in Central, Eastern and South Eastern European countries”, by Meri Papavangjeli, Research Department, Bank of Albania

This article investigates the functioning of the bank lending channel of the monetary policy transmission in ten Central, Eastern and South Eastern European (CESEE) countries over the period 2010-2018, using micro bank-level data mainly from Bankscope database, but also other supplementary sources, and classifying the commercial banks of these countries in three groups according to the development level of their banking sector, captured by the European Bank for Reconstruction and Development (EBRD) banking reform criteria. It aims at examining: (i) whether monetary conditions affect bank lending in selected CESEE countries; (ii) whether there is any linear relationship between certain bank characteristics (size and capitalization) and the loan growth rate; (iii) the effectiveness of the bank lending channel, by looking whether there are distributional effects due to the bank's characteristics in the impact of monetary policy on bank lending.

“The fragility of Albanian households and Covid-19”, by Elona Dushku, Research Department, Bank of Albania

The purpose of this article is to explore the fragility of Albanian households, as well

as to assess the households' of income and consumption levels, impacted by the measures taken after the total closure of the domestic economy in March-April 2020, to prevent the spread of COVID-19. The estimates on the fragility of Albanian households are based on detailed household data obtained from the first wave of the Albanian Household Wealth Survey, conducted by the Bank of Albania, in 2019. Scenarios resulting from the temporary and first effects, caused by the complete closure of the economy in March-April 2020 as a result of Covid-19, show a decline in total household income of 13% -16%, and a decline in aggregate household consumption of 9-11%, with varying figures for different groups of families. Furthermore, this decrease in aggregate income has also been accompanied by an increase of the number of poor households.

“Evidence on Financial Literacy and Financial Inclusion in Albania”, by Elona Dushku, Research Department, Bank of Albania

This article presents evidence on the financial literacy and financial inclusion in Albania based on survey data from Bank of Albania's "Population's Financial Literacy Appraisal", conducted during 2019. Individuals in Albania display only 53% (11.2 out of 21) of the total financial knowledge, behaviours and attitudes, which is reflected in a low level of financial inclusion. Only 54% of Albanians aware at least five financial products, compared to 83% of individuals globally. It results that individuals in Albania use mostly payment products, however their use of is almost 2.5 times lower than the global level. It is evidenced that women, the youth, the elderly, individuals no basic education, etc. are the groups with the lowest level of financial culture, and

should be included in most of the financial education programs, in order to obtain a future increase of the financial culture and well-being of the whole society.

“The Changing Dynamics of Conditional Distribution of Inflation”, by Lorena Skufi (Monetary Policy Department) and Meri Papavangjeli (Research Department), Bank of Albania

Discussion of inflation risks, especially whether risks to future inflation are balanced or tilted to the upside or downside, often takes a central stage in central banking discussion. The central bank’s assessment of inflation risks, and how this is communicated to the public, may potentially influence private agents’ expectations and hence their decisions, thus contributing to actual outcomes. In this light, this article aims at investigating inflation risks (the conditional forecast distribution) and more specifically the asymmetries of the impact of the macroeconomic factors under the “Phillips curve” along the various intervals of inflation distribution in Albania.

1.4. RESEARCH ARTICLES FROM OTHER CENTRAL BANKS

“Macroeconomic effects of Covid-19: a mid-term review”, by Phurichai Rungcharoenkitkul, Bank of International Settlements (BIS)

This article provides an interim assessment of the macroeconomic consequences of the Covid-19 pandemic. Estimates suggest a median output loss of about 6.5% in 2020, a gap that is expected to narrow to around 4% of the pre-pandemic trend by the end of 2021. There is however a high dispersion of economic losses across economies, reflecting varying exposures to the pandemic

and societies’ responses. High-frequency indicators and epidemiological models provide some insights into the interactions between the evolution of the pandemic and societies’ strategies for combating it, including the role of vaccination. The article draws lessons from experiences thus far and discusses challenges ahead.

<https://www.bis.org/publ/work959.htm>

“What Drives Gold Prices?” by Robert Barsky, Craig Epstein, Adrian Lafont-Mueller, Younggeun Yoo, Federal Reserve Bank of Chicago

A half century after gold ceased to play a significant formal role in the international monetary system, it still captures a great deal of attention in the financial press and the popular imagination. Yet there has been very little scrutiny of the primary factors determining the price of gold since its dollar price was first allowed to vary freely in 1971. In this article, we attempt to fill in that gap by highlighting three considerations that are commonly cited as drivers of gold prices: inflationary expectations, real interest rates, and pessimism about future macroeconomic conditions.

<https://www.chicagofed.org/publications/chicago-fed-letter/2021/464>

“Losing traction? The real effects of monetary policy when interest rates are low”, by Rashad Ahmed, Claudio Borio, Piti Disyatat, Boris Hofmann, Bank of International Settlements (BIS)

Are there limits to how far reductions in interest rates can boost aggregate demand? In particular, as interest rates fall to very low levels, does the effectiveness of monetary policy in boosting the economy wane? We provide evidence consistent with this hypothesis. Based on a panel of 18 advanced countries starting in 1985,

we find that monetary transmission to economic activity is substantially weaker when interest rates are low. The results hold even when controlling for potential confounding non-linearities associated with debt levels and the business cycle as well as for the trend decline in equilibrium interest rates. We also find evidence that the effectiveness of monetary policy wanes the longer interest rates stay low. These findings suggest that the observed flattening of the Phillips curve has gone hand in hand with a corresponding steepening of the IS curve. Monetary policy trade-offs may have become more challenging.

<https://www.bis.org/publ/work983.htm>

“Savings, efficiency and the nature of bank runs”, by Agnese Leonello, Caterina

Mendicino, Ettore Panetti, Davide Porcellacchia, European Central Bank

Does the level of deposits matter for bank fragility and efficiency? In a banking model with endogenous bank runs and a consumption-saving decision, we show that the level of deposits has opposite effects on bank fragility depending on the nature of bank runs. In an economy with panic-driven runs, higher deposits make banks less fragile, while the opposite is true when runs are only driven by fundamentals. The effect of deposits is not internalized by depositors. A saving externality arises, leading to excessive fragility and insufficient liquidity provision. The economy features undersaving when runs are panic driven, and over-saving when fundamental driven.

<https://www.ecb.europa.eu/pub/pdf/>

II. RESEARCH ACTIVITIES

2.1 15TH REGIONAL RESEARCH MEETING IN SOUTHEASTERN EUROPE

On 6-7 December 2022, the Research Department of the Bank of Albania organized the 15th South-Eastern European Research Workshop, in order to support and promote economic research, as well as increase regional cooperation in Southeastern Europe, but also more extensively in the areas of central banking. Even this year, this activity, under the social distancing conditions as a result of the COVID-19 pandemic, was organized virtually.

During the two days of this seminar's intensive activities, researchers this year presented their studies on economic-financial topics, as follows:

- Central bank digital currencies, risks and financial revolution opportunities;
- Environmental concerns, modelling and macro-finance developments.
- Covid-19: short-term and long-term effects, challenges and policies of central banks;
- Big data, machine learning and artificial intelligence in service of central bank policies;
- Evolution of monetary and financial stability as useful tools in times of shocks;
- The financial education and financial risk, implications for institutions and supervisory bodies;
- Households' financial weaknesses and resilience during and after the pandemic crisis

You will find the works presented during this activity in detail as follows:

1. "Global risk and the dollar", by Georgios Georgiadis, Gernot J. Müller, Ben Schumann (European Central Bank; University of Tübingen and CEPR; Free University of Berlin);
2. "Nonlinear Monetary Policy Reaction Function and Macroeconomic Fundamentals in India", by Vishal Sharma, Sana Fatima, Masudul Hasan Adil, (Institute of Business Management, GLA University, Mathura, India; Aligarh Muslim University, India; Indian Institute of Technology, Palakkad, India);
3. "Estimating business and financial cycles in Slovenia", by Črt Lenarčič (Bank of Slovenia);
4. "Assessing the Impact of Global Macroeconomic Conditions for Capital Flows in Albania", by Bledar Hoda (Bank of Albania);
5. "Nowcasting food inflation with a massive amount of online prices", Paweł Macias, Damian Stelmasiak, Karol Szafranek (National Bank of Poland);
6. "Forecasting Real Economic Activity using the Financial Stress Index: Evidence from Developed and Developing Countries", by Shenglin Ben, Man Luo, Andreas Tsopanakis (Zhejiang University, China; Cardiff University, UK);
7. "Managing Changes on Bank Services and Performance by adapting Financial Technology (Fintech): A Case of the Macedonian Banking System", by Artina Bedjeti Baftijari, Leonid Nakov (Faculty of Economics, Ss. Cyril and Methodius University, Skopje, North Macedonia);
8. "Examining Services Trade and its Potential Role for Economic Development", by Jasna Tonovska, Misho Nikolov (Faculty of Economics in Skopje; National Bank of the Republic of North Macedonia);
9. "Risk differentials between green and non-green corporate loans. Evidence from the Romanian banking system", by Florin Dragu, Florian Neagu, Amalia Stamate, Luminita Tatarici (National Bank of Romania);
10. "Demographic changes and their implications for the Albanian economy", by Meri Papavangjeli (Bank of Albania);
11. "The role of central bank communication in inflation-targeting Eastern European emerging economies" By Alessio Ciarlone (Bank of Italy)
12. "Does financial literacy matter? The Albanian case", by Elona Dushku (Bank of Albania);
13. "Carrot and stick. The effects on GDP of economic support and stringency policies in response to COVID-19", by Vincenzo Alfano, Salvatore Ercolano, Mauro Pinto (Westminster International University in Tashkent & Center for Economic Studies CES-ifo; University of Basilicata; University of Campania Luigi Vanvitelli);
14. "The interplay of supply and demand shocks: Measuring potential output in the COVID-19 pandemic", by Lovorka Grgurić, Ozana Nadoveza Jelić, Nina Pavić, Hrvatska Narodna Banka (The Croatian National Bank);
15. "Will the COVID-19 pandemic leave lasting scars on economic sentiments of CESEE individuals?", by Melanie Koch, Thomas Scheiber (National Bank of Austria);
16. "Is there a role of money in the measurement of monetary policy in Albania", by Altin Tanku, Ilir Vika (Bank of Albania);

2.2 GOVERNOR'S AWARD FOR THE BEST DIPLOMA FOR 2021

In the framework of encouraging economics students both at home and abroad, to engage in quality scientific research work in various fields of economics and finance, the Bank of Albania organized, in 2021 also, the open competition of "Governor Award for the best diploma". This competition was attended by students from universities within the country and abroad, with topics related to monetary and international economics, price stability, financial stability, etc.

The first prize was awarded to **Ervi KOSTA**, Master of Science student at the Faculty of Economics and Agribusiness, Agricultural University of Tirana, with the topic: "Income diversification and its impact on the financial performance of commercial banks", an essential aspect of the well-functioning of the Albanian banking system. The particularity of this research work is the assessment, through regress estimates with panel type data, of the relationship between the financial performance of commercial

banks and the level of diversification of their income.

The second prize was awarded to **Marina POPPA**, Master student of Development Economics, City University, London, with the topic: "Assessment of the role of macroeconomic and institutional environment in the performance of micro-finance institutions in Albania." The paper analyses the activity of micro-finance institutions in Albania, a key activity for promoting inclusion in microcredit to segments of the population less engaged in the economy - such as low-income residents and those concentrated in rural areas.

Kristjana PROKO, Master of Sciences student at the Faculty of Economics, University of Tirana was awarded the third prize, with the topic: "Optimal taxation on wage returns - the case of Albania." The paper addresses a widely debated topic among economists, whereby the main purpose is the modelling and assessment of an optimal taxation scheme on wage returns.

III. LINKS OF OTHER INSTITUTIONS

Banca d'Italia

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

Bank of Canada

<http://www.bankofcanada.ca/research/>

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>

BIS Central Bank Research Hub

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

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>

Federal Reserve

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

Oesterreichische Nationalbank

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

