Bank of Albania

THE CENTRAL BANK AND ITS POLICIES IN THE COVID-19 ERA:

FUTURE CHALLENGES

GENT SEJKO

2021

The views reflected in this paper are of the author alone and do not represent views or policy stances of the Bank of Albania.

Published by:

Bank of Albania, Sheshi "Skënderbej", Nr.1, Tiranë, Shqipëri
Tel.: + 355 4 2419301/2/3; + 355 4 2419401/2/3
Fax: + 355 4 2419408
E-mail: public@bankofalbania.org

Printed in: 300 copies
Printed by: sh.p.k.
ISBN: 978-9928-262-52-3

CONTENTS

INSTEAD OF AN INTRODUCTION...

The book you hold in your hands was written as a duty to fulfil the criteria of transparency and responsibility of the Bank of Albania (BoA) towards the Albanian people. Its purpose is to describe and expound upon, in a detailed and comprehensible manner, the policy and decision-making of the Bank of Albania during the pandemic and beyond, the instruments it employed and the results of its policy on the economy. While striving to fulfil this goal, the book includes and discusses a set of other economic and financial issues which, in addition to serving the final purpose of this project, provide a complete and interesting discussion on important economic and financial topics which more often capture the attention of the Albanian public. Altogether, the presented analysis and discussions conclude that though the economy was stricken by the pandemic, the negative effects were contained through interventions undertaken by the monetary and fiscal authorities. These measures were effective and ensured the premises for recovery despite prolongation of the pandemic.

The events and facts collected and set forth in this book do not consist of news or undisclosed information, thus they do not present new information or data unpublished previously. Transparency is one of the most important institutional pillars, to which the Bank of Albania has paid increasing attention. Consequently, its policies and

instruments are described directly at the time of decision-making or in the regular reports and publications of the institution. The material presented here identifies and deploys the events, facts and BoA's reports, as means to explain to the public the manner in which these events affect and shape the decision-making and response of the Bank of Albania.

In contrast to and in addition to the frequent communication and publications mentioned above, this book aims not only to summarise and explain the decision-making within a general framework, but, above all, to give a comprehensive and intuitive interpretation of this decision-making and the mechanisms and channels through which it is passed through to the economy.

In this light, the book is built as a story that communicates with the reader who may be a policy-maker, decision-maker, researcher, analyst or a curios citizen. I sincerely hope that the book will bring the reader closer to the BoA and its decision-making.

Despite its focus on the pandemic and the economic and financial policies accompanying it, and striving to present a complete and correct explanation, this book goes beyond a history of the pandemic in order to touch on the past and the present of central banking in Albanian. It also addresses important issues that shape the environment and determine the axioms upon which the economy and financial system in Albania function. These features and definitions are precisely the ones determining and conditioning the degree and nature of the Bank of Albania's response, as well as the success of adopted policies. I hope that the analysis and explanations illustrated regarding this phenomena will help the reader to better understand the functioning of the economy and, as previously stated, the decision-making of the Bank of Albania. This would be a significant contribution toward the financial education of the public and would increase the impact and effect of the monetary and macroprudential policies on the economy.

The book consists of 7 chapters, following the structure of working papers prepared at the Bank of Albania, to be read in full or segmented, based on interest in certain issues or chapters. Thus,

each chapter addresses a specific topic and is designed to stand independently by itself, while briefly dwelling on topics which are further tackled and explained in other chapters. This intentional and superficial "repetition" of concepts and economic phenomena, in addition to completing the analysis of each chapter individually, enables the organic interconnection between economic and monetary phenomena handled in the book.

This style allows the build-up of the story to pause and handle some issues and phenomena, which often raise debate about economy and finances. The analyses of these phenomena, which appear to be simple, straight, and real, when done in such a manner that makes them disconnected and independent of each other, may lead to erroneous conclusions, and, consequently, incorrect policy making. In view of the overall economic and financial balance, these phenomena are independent though neither simple nor straightforward. Discussion or misinterpretation in the context of partial balances may be accompanied by high costs to both the economy and the capacity of authorities to undertake regulatory policies.

To illustrate, I can bring to attention discussions on adoption of the euro. This discussion, which is witnessed often and seems to bring up all the arguments possible, gives the impression of a rational and valuable alternative. However, conclusions regarding adoption of the euro may not be complete without analysing the exchange rate regime, its role on the Albanian economy and on the transmission mechanisms of monetary and macroprudential policies, developments in the external sector, the interaction of the exchange rate with the BoA's policies and instruments and, above all, its informative role on the decision-making of the private sector and monetary authorities. If the discussion regarding all of these issues is fully laid out, then the conclusions reached may differ from first impression. In order to derive a complete understanding and to create a correct opinion, the reader must follow this issue throughout all the chapters addressed in this book.

Consequently, in order to correctly understand and judge the analysis and decision-making of the BoA to the function of the phenomena and the shock caused by COVID-19, and those that the future might bring, I invite you to read the book all the way through. As previously

highlighted, the book is made easy to grasp as the material is laid out and enriched by descriptions and illustrations of the events and phenomena from the perspective of a reader that doesn't necessarily have a background in this field. In addition to that, the method of analysis and conclusions presented are based on the best academic methods and standards of empirical analysis. A part of the empirical analysis employed in this book is published for the first time; the other part is based on studies prepared and published by the BoA, as well as on international literature in this field.

The book is opened with a quick description of the pandemic, its effects and the policies undertaken by the BoA in response. Analysis of the shocks to the economy and the financial system, are described based on the research and models of the BoA. The nature and intensity of the corrective measures, which are described in detail, are evaluated in the same manner. The measures carried out by the BoA are similar to those of other central banks. Comparison of the results of the above exercises with the official statistics laid out in the first chapter, provide the reader with an instrument to assess and comprehend the economic and financial effects of the policies carried out to respond to the crises. The differences observed testify that the BoA's decision-making was correct, effective and has safeguarded the economy and the financial system from the pandemic, while providing fruitful coordination of monetary policy with fiscal policy. The following chapters unfold the full history and analysis of this decision-making.

Chapter 2 and 3 describe and record in a formal manner, the important relationship between the performance of macroeconomic indicators and the stability of the financial system, and consequently, the interaction and conditioning that monetary policies and financial stability exercise upon each other. These two chapters start at the end of the analysis presented in "Studies on the Banking System and Economic Development" (Sejko, 2018), to discuss and ponder the hypothesis laid out in the conclusions of the research summarised in this book. The concrete results derived from the empirical exercises demonstrate that both policies are interdependent and conditioned on each other. This is a conclusion which is fully supported by research data on the Albanian economy.

Chapter 4 - which presents and analyses the development and enrichment of monetary economics during the pandemic – clearly displays this interdependence and conditioning. The central bank's swift decision-making and establishment of frameworks, like in other crisis has enriched (although this term may assume its full meaning only in the long-term period, when the effectiveness of the undertaken policies is validated) the science of monetary economics, by introducing new concepts or embracing concepts which are considered taboo. To tackle the pandemic and given the real circumstances of the monetary situation, the central bank (when monetary policy rates had reached or almost touched the zero threshold) brought to attention the bank's balance sheet as an invariable instrument of monetary policy. This is a key concept which deserves to be discussed both in the theoretical and practical aspect, from the lens of monetary policy. The reader will understand that a factor restricting the use of this instrument in small, opened and dollarized/euroized economies is precisely the interdependence and interaction between the monetary policy and the financial stability. This chapter was published for the first time in the Scientific Conference (2021) publication: "Pandemic and recovery – the coping strategies and expectation," a joint initiative organised by the Parliament and the Academy of Sciences. The chapter was included as an integral part of the book, because it holds an important place in the discussion, without which the history would have been incomplete and the details provided in the preceding chapters would have been unclear and devoid of meaning.

One of the most crucial messages of the book's analysis is that successful decision-making and policies depend not only on the professional capacity of policy-makers, but, above all, on all the existing conditions of the economy. As the health condition of a patient narrows down selection of the medications that treat a specific problem in order not to damage the overall health balance, so do a central bank's policies condition the financial and economic situation of the economy and the banking system upon which they act.

The fifth chapter aims to convey precisely this message. This chapter expounds upon the coordination and interaction between monetary and financial stability policies from 2013-2019, by both supporting

and contradicting each other. At certain moments this encouraged legal, institutional and regulatory improvements, which enabled elimination of the consequences that the global financial crisis brought about. The combined policies undertaken in this period drove to the cleaning of the banks' balance sheets and to consolidation and soundness of the financial system, by creating a stable situation and the necessary space for implementing expansionary monetary policies, as well as macro and micro-prudential ones, the latter being necessary for the temporary relaxation of the regulatory restrictions.

The stability and soundness of the macroeconomic and financial situation and legal and institutional enhancement (including enhancement of the instruments and procedures of the monetary and financial stability policies) prior to the pandemic, were precisely the reasons that the Bank of Albania could undertake all its chosen measures to protect the economy from the unprecedented pandemic shock. Chapter 6 describes and explains in detail these measures. In order to facilitate the reading experience, the chapter classifies, lists and describes all the measures seen from the lens of the objective to which they served, including the transmission mechanism, by means of which they are conveyed to the economy. Through this extended analysis, the reader may understand and directly judge the objective, perceive the implementation and lastly, analyse and assess from an economic, sectoral or individual standpoint, their impact in restricting the side effects and guaranteeing macro-financial stability. The analysis and assessments which accompany the description and the transmission mechanism of measures to the economy are based on other models and studies of the BoA. The use of other models and conclusions is quite valuable, not solely to visualize and illustrate its decision-making, but also to evaluate the exact costs of this decision-making. The detailed analyses in this chapter aims to convey to the reader the impact and consequences of alternative policies, by expanding, investigating and illustrating through numerical analyses the conclusions presented in Chapter 4. In this manner the decision-making threshold, beyond which costs exceed benefits, may be measured.

It must be emphasized that the above-illustrated discussion is focused entirely on the present and past. I would like to remind the reader to

restrain from being dumbfounded by this illusion. Both economic theory and practice show that future expectations have a significant role to play in economic and financial decision-making. In practice the phenomenon that have not occurred, are present in the economy through future expectations towards which we react. This truth does not apply to individuals alone, but also to institutions and their policies. Based on this fact and the key trends and developments that dominate the agendas of human society at the global and national level, the book presents a discussion and analyses the implications that these developments and trends will have on the central bank. This discussion extends to four major areas that will allow the central bank to hold a position for good management of the economy, as well as consumer protection. First and foremost, all the challenges presented are likely to require enrichment and revision of the mandate and responsibilities of the central bank. This is a discussion that goes beyond the bank and includes not just law makers and the political factor, but society at large. As a result, it is necessary that all the stakeholders become acquainted with the issues that are projected by the developments of the society on the central bank, in order for them to envision diligent decision-making and make well-thought out choices which support the central bank and its mission, as well as guarantee the macroeconomic and financial stability of Albania.

CHAPTER I: THE PANDEMIC, THE CRISIS AND THE LESSONS WE HAVE LEARNED

I. THE PANDEMIC HITS THE ALBANIAN ECONOMY

Right before the COVID-19 pandemic, decision-making institutions worldwide had just successfully stabilised their relevant economies and financial systems through a set of macroeconomic and regulatory policies that addressed the consequences brought about by the 2008 global crisis and the subsequent Euro area debt crisis. In a fashion similar to other places around the world, our economy experienced a lengthy adjustment and acclimatization phase of eliminating the negative effects of the financial crisis. In addition to these challenges, Albania was hit by two consecutive earthquakes at the end of 2019, which put its macroeconomic situation into difficulty.

Whilst still attempting to fully address the effects of these shocks, the Albanian economy, just like the entire global one, was faced with the COVID-19 pandemic and the recession accompanying it.

This was a different recession than the economic fluctuations explained by the economic literature, and was characterised by a uniform deterioration in macroeconomic and social indicators. The recession of the pandemic was akin to a self-induced economic "coma," as it tried to suppress the immediate outbreak of the COVID-19 virus. The imposed isolation brought economic activity

to a halt, exceeding the expected effects of traditional negative shocks caused by a higher level of fear and insecurity and a lower level of consumer and investor confidence. Disruption of economic activity was conducive to restricting the further spread of COVID-19, in light of the threat of immediate exhaustion of hospital capacities and public health.

Based on the guidelines issued by the World Health Organisation (WHO) and the decree of the Ministry of Health, as of mid-March 2020, all economic activities were suspended with the exception of life-sustaining services. These drastic measures put economic activity into an immediate and all-encompassing, albeit temporary, frozen state. Recovery of economic and financial activity was realized gradually over a two-month time frame, only after the evolving pace of the pandemic was partially stabilised to a manageable level. Over this period, policies designed to bring public life back to normality enabled a restart in the activity of the most necessary links for the reactivation of the economy. Nonetheless, during the first phase of reopening the economy, when the pandemic was still inimical to public health and the economy, the overall level of economic activity remained restricted and far from the dynamism of the pre-pandemic period. Still to this day, around 18 months after the COVID-19 outbreak, social and economic interaction continues to be affected by health, economic and financial uncertainty, and by preventative measures to fight the spread of the virus, decreed by public health institutions.

As expected, empirical assessments of the time suggested that the combination of the pandemic and these unprecedented and necessary measures for public health safety, would contract the economy in the form of depression. The strong and imminent impact was noted in the drastic fall of consumption, savings and investments. Reports on macroeconomic indicators during the following periods confirmed these trends. Nevertheless, economic contraction measures materialised at a lower level than the empirical forecasts, which occurred without the presence of easing policies to mitigate the effects of the pandemic. The easing measures succeeded in mitigating these negative shocks, particularly in relation to consumption and investments.

The unprecedented pandemic situation rendered necessary the coordination of an unprecedented policy framework from several institutions, not only conceptually, but also as regards the selection and coordination of instruments and monetary, fiscal and financial policies. The measures of the central banks were immediate, unprecedented and multi-directional. In other words, the undertaken measures were implemented on uncharted territories. The need to provide a strong response against the shocks urged to reformulation of monetary policy views, concepts and instruments over a six-month period.

The concept of formulating a response at the theoretical level was previously investigated in a series of materials which took their precedence from monetary developments in Japan in the 1990s. In a theoretical framework, these policies were implemented partially and repeatedly in the period succeeding the 2008 financial crises, as well as the 2010 European debt crisis. Although considered transitory measures, these policies are assessed as having an acceptable scale of success. Currently, under the conditions of suspended economic activity driven by the COVID-19 pandemic, the easing of central banks' polices, both in terms of measures and instruments, went further ahead than ever before, by simultaneously deconstructing many theoretical taboos and practices in the field of central banking.

In parallel to the contracting economic impact, the interruption of economic and social life over a one-to-two-week period clearly emphasized the ecological stress that global activity imposes on the planet. To this end, fearless policy-making in response to the pandemic is assessed as beneficial both from a health perspective as well as an economic and financial one. Easing policies continue to remain effective at the current time, 18 months after the outbreak of the pandemic crisis. However, the pandemic and easing monetary policies also present long-term implications in goods and services markets, monetary and financial markets, and in the employment and natural resources markets. Issues and side-effects have begun to be identified in prices and financial stability. These issues require the attention of authorities and the need to review economic and financial policies in the short-term and to adopt structural changes in long-term development strategies.

Redirecting attention to our economy, the Bank of Albania (BoA) undertook a set of measures in response to the pandemic based on the principles similar to those of the largest central banks in the world, while taking into account the restrictions and specifics of the financial market and overall economy of Albania.

The measures carried out were concurrent in order to address issues regarding monetary policy, financial stability, the economy and other concerns of the banking system. To this end, interest rates, which were historically low at the inception of the pandemic, were further lowered to almost zero levels. A parallel measure was the injection of liquidity with no quantity limits to both the banking system and the economy. Concurrently, a set of supportive measures was implemented on the activity of the banking system in the form of easing or suspending regulatory requirements, in order to safeguard the status and financial soundness of economic entities (households and enterprises) as well as the banking system. Coordination of these measures enabled and guaranteed the functioning of markets and the economy under the conditions of disrupted economic activity.

Nearly one year from the deceleration of the pandemic situation, its negative effects are obvious and documented in monetary, financial and fiscal statistics as well as in the real ones, albeit at a lower frequency. Concretely, economic activity fell by 11% in the second quarter of 2020, with the culmination of the restrictive measures of economic shutdown. Unemployment increased from 5.6%, right before the pandemic, to 7.4% at the end of 2020.

A good understanding of the Albanian economy and its reactions to the central bank's policies and instruments, contributed to the materialisation of an immediate and multidimensional reaction from the BoA. The response of the BoA to the pandemic, by means of the measures and policies, was made possible by correct identification and resolution of existing problems during the pre-crisis period. But under the new circumstances, the development and wealth of the financial and capital markets conditioned the nature and scale of instruments implemented by the Bank.

Financial indicators reflect monetary and financial policies at a faster rate than real economy indicators. Consequently, thanks to lower interest rates in the economy and temporary regulatory measures implemented in real-time, the cost of lending by the banking system went down by around 1%, to 5.5% in 2021 Q2. As a result, lending to the private sector of the economy maintained annual growth rates of 6-9% during 2020. In spite of the frozen economic activity and recession recorded in 2020 Q2 and Q3, the measures undertaken were conducive to creating conditions for the banking system to withstand this pandemic, by keeping the parameters of financial soundness at healthy levels.

Assessment of the macroeconomic conditions achieved through this wide set of measures and analysis of the insecurity which accompanies the implementation of such policies under the conditions of the Albanian economy, although we are far from the end of the pandemic. From a challenging perspective, the success and fulfilment of a goal through monetary and financial policies, does not provide a guaranteed solution, but does provide high probability of an acceptable event. A strong reason is that the complete framework of monetary, stability and banking supervision policies, exchange rate and fiscal policies, not only condition and complement each other, but through the multifaceted and concurrent interaction of the channels of transmission, they condition the desired realization of decision-making objectives. This interaction of policies is dictated by the characteristics of the Albanian economy and the dynamics of financial market developments, which cause monetary and financial stability policies to be deeply connected through two or more monetary and financial mechanisms of transmission.

Fortunately, preliminary assessments and the immediate evolution and coordination of the BoA's measures prior to and during the crisis, proved to be successful. The results achieved were in accordance with the forecasts and expectations of the Bank. The minimisation of uncertainties which accompanied these measures was also due to the experience gained during the global crisis and the careful management by the BoA of the issues pertaining to the banking system during and after the crisis. Furthermore, implementation of necessary policies and restriction of the side effects also contributed

to the positive results achieved in the framework of the measures undertaken prior to the pandemic to address issues related to the banks' financial soundness, which were caused by the global crisis.

Absolutely, we see that the policies carried out by the central banks, and naturally by the Bank of Albania, were successful and played a decisive role in preserving the health of the economy. They succeeded to reduce and mitigate the shock caused by the pandemic and support the response to the pandemic and its negative effects.

This experience triggered simultaneously a review of the central bank's manual on addressing extreme crises. In order to help the reader grasp the full experience of this event, the following section of this chapter will aim to expound more thoroughly upon the measures undertaken and the conditions that dictated these policies.

At the outset of the COVID-19 pandemic, the macroeconomic perspective of the Albanian economy appeared stable even though, as previously stated, the economy was hit by two destructive earthquakes in September and November of 2019. The indicators on monetary and financial soundness appeared to have improved, as shown by an increase in the stock of credit to the economy, a decrease of non-performing loans, stability of the exchange rate, and positive forecasts for economic growth. These positive expectations for mitigation of the negative shocks caused by the earthquakes were consolidated also by the aid package provided by the donors' conference. Furthermore, the overall macroeconomic environment of the world and the economic partners of Albania were positive, while the pandemic was yet to be confirmed as a threat to the global economy. Consequently, despite the negative shocks of the two earthquakes, 2020 started with optimism and confidence for the macroeconomic perspective of the Albanian economy.

In the years preceding the pandemic and the earthquakes, the Bank of Albania undertook a series of important measures and changes in relation to implementation of monetary policy and consolidation of financial stability. These measures focused in two directions. First, they focused on overcoming issues caused by the negative effects of the global financial crisis in 2008 and the sovereign debt crisis in the

European economies in 2010. Second, starting from the experience of the two past crises, these measures aimed to strengthen banking soundness indicators and enhance the capacity of the financial system, with a view to better withstand possible adverse shocks or similar crises in the future.

These policies provided satisfactory results and made an important contribution towards enhancing the capacity of the banking system to buffer the negative impact of similar shocks. Unfortunately, such shocks materialised from the above-mentioned events, earthquakes and the pandemic. Improvements in the landscape were confirmed by the positive expectations on economic growth, on the one hand, and the positive expectations for credit growth, which was mainly supported by lending in Lek, on the other hand. Also, an easing of lending conditions, a high level of capitalisation and liquidity of banks, as well as a decrease in non-performing loans ratio close to the level prior to the global financial crisis, to around 8%, indicated an improved macroeconomic perspective.

All the indicators confirm that, at the outset of the COVID-19 pandemic early in 2020, the Albanian economy had a much better prepared and consolidated financial system to buffer external shocks, despite the earthquake calamities. From this perspective, the 2008 global financial crisis and sovereign debt crisis in the Euro area in 2010-2013, served as preparatory experiences to both consolidate the financial system and strengthen the critical indicators of financial soundness. The pandemic appeared unavoidably in Albania at the beginning of March 2020, although it had become world news in December 2019. Beyond any expectation, the virus and the ensuing health emergency delivered a strong blow to the economy and the psychology of all the economic and social actors, such as household units, enterprises and public entities. The suspension of economic activities from mid-March to end of May 2020 and the restriction imposed on individuals engendered a decrease in all the constituents of aggregate demand. The impact of economic lock down was more pronounced on the indicators of private consumption and the external sector of the economy. The effect was somewhat smoother in some vital sectors which were allowed to continue their economic activity to supply the population with basic products and services.

In parallel, the closing of the economy was also accompanied by an immediate decrease in the supply of goods and services. A special characteristic of this crisis is its two-fold impact on both the supply and demand side.

While financial assets quotes are not available, it is challenging to find in the Albanian market a significant indicator with a daily or weekly reporting frequency that describes with numbers the size of the immediate shock that the economy underwent in the first week of the closure. The immediate intervention of the BoA and the Government caused the high-frequency trading instruments, which are traded and quoted in the interbank market, to not reflect the shock on the weekly or monthly reported indicators. Despite this, the degree of economic and financial shock was made clear by BoA's assessments, where the models anticipated a drastic fall in production, a discontinuation of lending activity and an immediate deterioration in banking and financial soundness indicators.

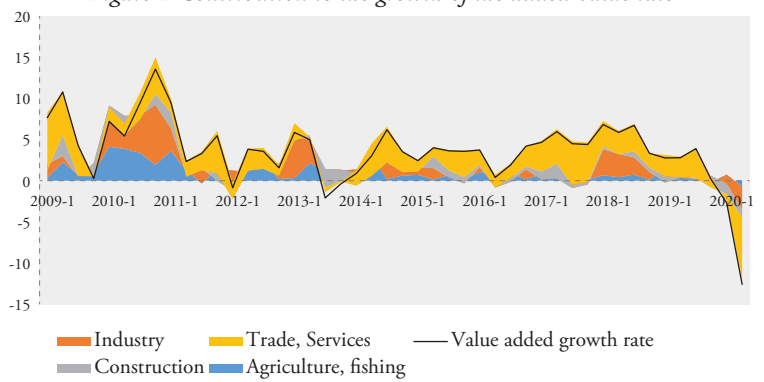
The statistics published by INSTAT and the BoA shows that the shock on the real economic indicators, in tandem with the undertaken measures, has been significant. The facts referred to below illustrate this conclusion.

(i) statistics on the movement of citizens during January-July 2020 showed less than half of the number registered in the previous year;
(ii) export (import) of goods fell by 16.8 (13.2) %;
(iii) in the second quarter, the value of travel in the current account balance was 85% lower than in the previous year;
(iv) according to the World Bank assessment for 2020, remittances were expected to decline by 20%.

The sectors hit the hardest as a result of the restrictive and preventative measures were the most vital sectors of the economy in terms of the number of employees, the number of enterprises and added-value, along with the sectors of services and trade (Figure 1). These two sectors account for 53% on average of the total value added. Both sectors are mainly organised in the form of small enterprises, with 1

to 10 employees and financed by personal funds[1]. Also, enterprises involved in services and trade have low access to bank loans. The two reasons dominating this situation are the relatively high costs of loans, considering the financial conditions of these small enterprises and other loan supply terms, which further increase the financial burden of funding this type of activity through bank loans (Dushku and Ceca, 2019).

Figure 1 Contribution to the growth of the added-value rate



Source: Instat (2020).

Consequently, in 2020 Q2, deterioration was observed in almost all the secondary indicators, notable in the decrease of business and consumer confidence indicators, the fall of production capacities utilization rate, and the tightening of lending conditions in the banking sector. All these indicators support predictions of a sharp contraction of GDP during 2020 by around -10%, comparable with the deep economic downfall in 1997 (Figure 2, forecasts of August 2020).

As a result of all these negative shocks in trade, services and all the other economic and financial activities, the Albanian economy dropped by -11% in the second quarter and by -3.5% in the third quarter of 2020. Fortunately, this decline was much smoother than the forecast in pessimistic scenarios. According to the latter, economic growth was expected to be -25% in the second quarter and -5.3% in the third quarter (Figure 2).

[1] *Ceca and Dushku (2019). The results of the survey on the financial situation and lending of micro enterprises in Albania, Bank of Albania, Study Material No 35 (74) 2019.*

I. THE FRAMEWORK OF MACROECONOMIC POLICIES ADOPTED IN THE FIRST STAGE OF THE PANDEMIC

The measures undertaken to strengthen the ability of the economy and financial system to withstand shocks, played an important role in withstanding the shocks suffered from the pandemic. These measures have cushioned the shocks received and restricted their transmission to the real economy and the financial soundness indicators, as noted in the actual results, which are less pessimistic than the predicted scenarios for the end of 2020 and beginning of 2021. Also, macroeconomic and financial statistics show that the effects of the pandemic on the exchange rate, price of instruments in the banking and financial market, price of real and financial assets, interest rates in the financial market, and the stability indicators remain contained.

The focus of these measures adopted by the Ministry of Finance and Economy (MFE) and the BoA, was the immediate support and recovery of the economy in the shortest time period possible. These measures consisted in both mitigating the monetary conditions through the operational framework of monetary policy and providing regulatory facilitations. In turn, the financial system was able to deal with the negative effects originating from the disruption of economic activity.

With a view to mitigating monetary conditions, the Bank of Albania:

- cut the policy rate from 1% to 0.5%, in March 2020;
- tightened the corridor of the monetary policy transmission mechanism;
- provided unlimited liquidity to the banking sector and to other market operators in order to stabilize monetary and financial conditions; and
- intervened in the market in order to mitigate the exchange rate fluctuations as a result of the measures undertaken to close the economy.

With a view to providing regulatory and macroprudential facilities, the BoA:

- signed a moratorium , which enabled (i) temporary suspension of credit instalments for borrowers affected by the pandemic, at first approved until June 2020 and then extended until August 2020, as well as (ii) restructuring of credit according to the solvency of borrowers affected by the pandemic until the end of 2020;
- adopted regulatory amendments allowing banks to keep classification of loans and provisioning levels for non-performing loans unchanged until the end of 2020;
- suspended the allocation of banks'profit until the end of the year, so that, in any event of financial losses materialisation, banks could possess the necessary capital not just to cover their losses but also to support new credit;
- adopted other regulatory measures and amendments with a view to preserve the stability of the banking system and increase its lending capacities[2];
- agreed with the European Central Bank to set up a REPO line arrangement up to EUR 400 million to provide euro liquidity to Albanian financial institutions to address possible euro liquidity needs in the presence of market disruptions due to the COVID-19 shock.

II. WHAT WERE THE ECONOMIC CONDITIONS AND FORECASTS THAT DROVE THESE POLICIES?

Naturally, economic enterprises and household units have felt the effects deeply. As a result, given the economic slowdown and the deterioration of several indicators, the positive effect of the undertaken policies may not be fully assessed. However, if the role of these policies is conditioned and assessed starting from the predicted effects of the shock in the absence of these measures that support the economy, then the positive and necessary effects of these measures in the Albanian economy come to the fore. In order to shed more light on their role, following, I will provide a summary of the results derived from the BoA's predictive and evaluative exercises. These evaluations present the negative effects of the pandemic shock and

[2] *A detailed summary can be found in the official website of the Bank of Albania: https://www.bankofalbania.org/Shtypi/Response_of _the Bank_of_Albania_to_COVID-19/*

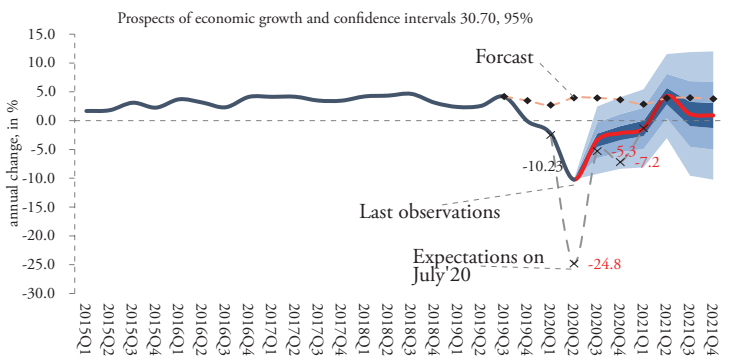
the distribution of first and second-stage effects to the economy and the financial system.

III. THE ASSESSMENTS OF THE BANK OF ALBANIA'S SCENARIOS AT THE ONSET OF COVID-19 PANDEMIC

Based on the intuition of a counter-evidence[3] approach, we have assessed the impact of undertaken measures on the economy, measured mainly in terms of GDP, inflation, exchange rate, credit and non-performing loans ratio. The Bank of Albania's assessment on implemented measures has been conducted by looking at the differences between predictions made by us before and after the adoption of measures by the key institutions, mainly by the BoA and the MFE.

- Preliminary assessments based on the sectoral composition of the economy and the value-added for each sector, as underlined above, created the expectation that the economy would receive a bigger blow than it actually did. Concretely, predictions for economic growth of Albania in August and October 2020, while taking into consideration the entirety of the information available during that period, present a reduction in the economic activity in 2020, by -10% (Figure 2).

Figure 2 Prospects of economic growth and confidence intervals



Source: Bank of Albania.

[3] *The counter-evidence is a possible result for an indicator or for several economic indicators in the absence of a measure or specific policy.*

- The main claims of August predictions related to the fall of consumption and revenues from immigrants, the decline in total investments, while external demand and other indicators contracted. The immediate decline of these indicators was due to the effects of the first round that accompanied the closure of economic activity, while the recovery of economic activity was expected later. Concretely, the assessments derived from the household data which was based on the results of the Survey on Household Wealth, show that only due to the disruption in the activity in March 2020, total household revenues in Albania would fall by 13%-16% in 2020, while aggregate consumption of households would fall by 9%-11%.
- The scenarios built on the data of household balance sheets showed that the decline in total household income would be accompanied by an increase in the number of low-income households by 3 percentage points. A similar evaluation shows that the decline in total incomes would put 29%-30% of total households in Albania in the category of low-income families. Under these conditions, in the absence of a fast recovery of the economy, the increase in the number of low-income families would have a medium to a long-term effect on the decline of average income, household consumption, as well as a heightened debt burden.
- The information derived from microeconomic data suggests that the income of 179 084 employees (or 32% of the total number of employees in the economy) was affected directly, as were the income of 113 644 self-employed (or 27% of the total self-employed). On the other hand, private investments were expected to fall by 20%, external demand by 8%, remittances by 20% and employment demand by 2.5%.
- Also, economic growth forecasts in October showed a fall of GDP during 2020 by -4.5%, evidencing a decline of expectations and the materialisation of the negative effects created at the peak of restrictions against the pandemic. The difference of around 5 percentage points of GDP in absolute value between August and October 2020 forecasts, also demonstrates the impact of the measures undertaken, within and outside of the country, on GDP and other macroeconomic and financial indicators.
- Alongside these evidences, our assessments based on the existing

empirical models show that such a high economic downfall would be translated in the decrease of consumption deflator by 1.5 percentage points and a slight weakening of the national currency by 1.1 percentage points. Strong link between the real sector and financial stability makes it impossible to avoid the reflection of trade activity contraction on the increase of non-performing loans indicators, as well as on the deterioration of household and banking system balance sheets. Due to economic activity slowdown and the materialisation thereof we would have a decline in lending by 24-40%, which would be translated in an increase of the non-performing loans ratio by 28 and 65 percentage points. This would bring about an increase of loan-loss provisioning by 44-85%, putting the banking system in Albania in difficulty.

It was expected that this deterioration would trigger a new shock in economic activity, initiating a second round of negative effects, which would latter disperse to other sectors. In the fiscal sector the effect of the second round of shocks would affect the decrease of income available to withstand emergency expenses of crises, while there was no guarantee regarding the performance of the pandemic and the effectiveness of vaccines, as the two possible paths in opening the economy without hindering public health[4].

IV. COUNTER-RESPONSE OF CENTRAL BANKS IN THE WORLD AND IN ALBANIA

The health crisis caused by COVID-19 and its unprecedented negative effects on the global economy and the production chains of global trade brought about an immediate and extraordinary reaction of central banks globally. The main goal of the adopted policies was to increase liquidity in economies, as well as to guarantee credit supply with favourable conditions in support of the private sector, households and the overall economy.

Table 1 in Annex I summarises the policies and measures undertaken by some central banks of large economies (ECB and Fed) and other

[4] *These assessments are based on working papers published by the BoA and as such are easily debateable.*

advanced or developing countries, including the policies undertaken by the BoA. These measures consist in policies adopted largely by advanced and many emerging economies, including Albania[5].

The negative shocks caused by the pandemic and the negative forecasts on economic and financial indicators dictated the engagement of most of the instruments presented in Table 1, Annex I, in the framework of implementing an accommodative monetary policy and guaranteeing financial stability. The Bank of Albania aimed to support economic activity through lowering the policy rate and other rates of the monetary policy operational framework and providing unlimited liquidity to the economy and the banking system.[6]

- The policy of injecting unlimited liquidity with a fixed low cost was conducive to the most normal development of financial intermediation in the economy. Convenience of liquidity access to financial stakeholders and activation of additional measures to relax regulatory requirements, such as suspension of loan payments, contributed to buffering and containing the negative shock-, thereby mitigating the effects originating from the pandemic shock and eventually preserving the financial stability of the banking system.
- While the economic shutdown aimed to restrain the infection curve, the relaxation of regulatory measures and the moratorium to extend loan payments aimed to mitigate the curve of financial shock and buffer the negative effects on the financial system.
- In addition to the practices and measures carried out under emergency conditions, the BoA collaborated with other national and international stakeholders, among which the ECB to guarantee foreign REPO lines, or other international institutions such as the IMF and the European Commission.

---

[5] *Table 1 (Annex I) presents a detailed summary of all the instruments used by developed and CESEE central banks in response to the difficulties imposed by the COVID-19 pandemic on the economy and financial system. Some of the developed economies might have taken a certain measure which relates to the specific conditions of that economy, but that it is irrelevant to the conditions of the Albanian economy.*

[6] *A description and detailed and intuitive analysis of the measures undertaken by the Bank of Albania in the framework of the pandemic and the effects of these measures are provided in Chapter 6.*

All these measures contributed to stabilizing monetary and financial conditions, preserving financial stability and restricting their adverse effects on the real economy.

- First, the supervisory measures, the easing policies on monetary conditions and the financial stability measures were able to contain the shock of the system on the real economy, despite the great shock on the real economy indicators.
- Second, intensive and unconditional collaboration with domestic and foreign partners was instrumental in better withstanding the negative effects of the pandemic by avoiding negative phenomena such as bankruptcies, massive deposit withdrawals from the banking system or failures of financial stakeholders. In this light, this crisis was different from other crises, such as the 2008 global crisis, the Euro area sovereign debt crisis, the balance of payment crisis and others which had pronounced macroeconomic implications.

Besides the long list of the measures undertaken by central banks of developed and emerging economies outlined in the above-mentioned table, the BoA has implemented out all the possible measures relevant for Albania in order to address the crisis, by contributing to preserving the macroeconomic and financial stability of the country.

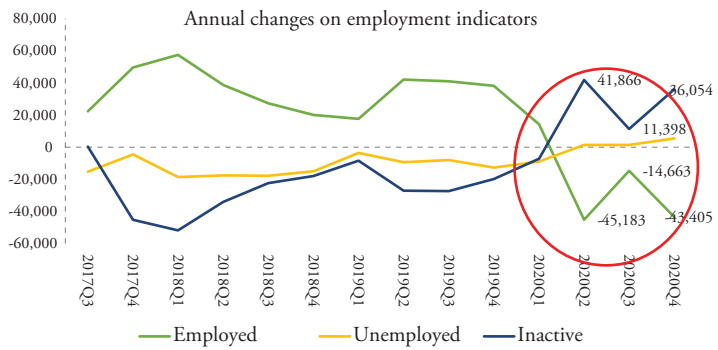
Last, these measures tested new instruments, which were tried for the first time in the framework of central bank policies, although they emerged from the need of an immediate and unprecedented response. As a result of these measures, the monetary policy framework has currently evolved and has been re-conceptualised with new quantitative elements through balance sheet expansion policies. This practice adopted by developed central banks such as the FED, the ECB, the Bank of Japan and other central banks caused a considerable expansion of balance sheets. In this point of view, the policy-making concept changed by being enriched with new instruments and by breaking many taboos. When these changes are taken in unison, developments of practice and theory, they are a valuable set of lessons.

V. WHAT WERE THE EFFECTS OF THE ADOPTED POLICIES?

The package of adopted policies, the gradual opening of the economy in June, the partial easing of restrictions in Albania and abroad and the extension of deadline on easing measures from the Bank of Albania, contributed positively to reducing the negative expectations on the economy and improving the other macroeconomic indicators. The short-term statistics of the net sales index and payment fund index show a slight improvement during 2020 Q3 and Q4. However, the annual growth rates of these indices for services, transport, tourism and extracting industry sectors, continued to fluctuate in negative territories throughout 2020.

On the other hand, employment statistics during lockdown show that there were 45 thousand job places lost during 2021 Q2 compared to the same quarter in 2020. Whereas in 2020 Q4, there was a drop of 43 thousand job places, around 3.4% lower than 2019 Q4, while the average monthly wage for an employee has risen by 1.3%.

Figure 3 The performance of employment indicators

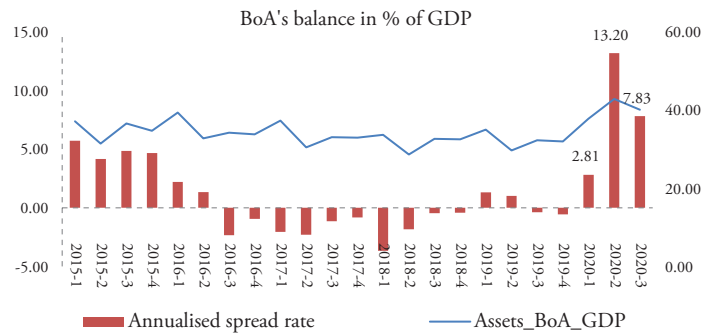


Source: Instat (2021).

The measures undertaken by the Bank of Albania, such as reducing the interest rate and providing unlimited liquidity have given the necessary stimulus to support the normal functioning of financial markets and to guarantee the flow of credit in the economy during the entire lockdown period.

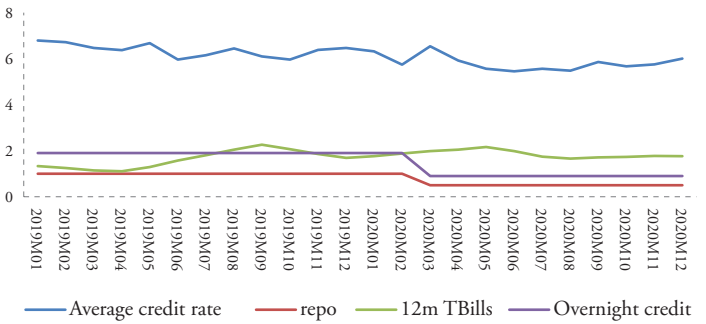
- Financial markets have reflected the easing of monetary conditions by the Bank of Albania. In concrete terms, interest rates on credit and deposits for households and enterprises were lowered by 0.5 percentage points, on average, at the end of 2020. Also, the expansion of the BoA's balance sheet has enabled stabilisation of liquidity pressures while the exchange rate has remained stable. As regards fulfilling market needs for long-term liquidity, the BoA's balance sheet increased by 13.2 percentage points in GDP terms during 2020 Q2, and by 8 percentage points during the following quarter. This is the highest level of expansion recorded in the last 5 years. The highest contribution to this increase was driven by purchases of government securities

Figure 4 BoA's balance sheet performance



Source: Bank of Albania.

Figure 5 Interest rates



Source: Bank of Albania

- The undertaken measures guaranteed both the continuation of the critical functions of banks, and financial intermediation at higher levels. In addition to the great shock suffered by economic activity, annual growth of credit to the private sector was 6.6% on average in 2020 Q4. This increase in credit stock materialised in credit to enterprises in lek. Furthermore, during the last quarter of 2020, total deposits grew by 7.1%, on average, mainly reflected in an increase of residents' deposits. The expansion of financial intermediation has been materialised despite the tightening of credit standards by banks, particularly of non-price credit terms and conditions during 2020 Q2 and Q3.

- Macroeconomic indicators and other micro indicators also provided clear signs of improvement of the financial soundness perspective of the financial system. Banks' balance sheets, in terms of capitalisation and liquidity, appeared sound, signalling their ability to withstand the first-round shocks.

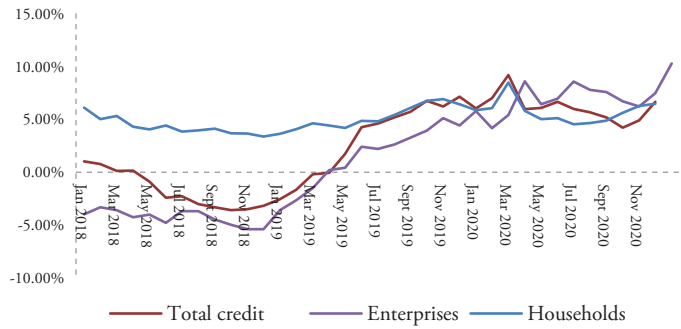
In addition, micro data assessments show that the risk of household's insolvency has decreased, driven mainly by the two policies undertaken during the pandemic. The cut of policy rate by the BoA and the extension of credit payment contributed to the temporary reduction of this risk and the safeguarding of household [7] resilience, thereby avoiding the negative effects that the inability of households to pay their financial obligations would have otherwise had on stability of the financial system. Micro data of household surveys show that the majority of total credit has been granted by the banking system to high-income households, and it is mostly collaterised[8]. It is assessed that as a result of the measures undertaken by the BoA, the credit granted has benefited 15%-18% of households, which face solvency issues if the debt burden increases. This would have been materialised in an increase of non-performing loans at the same degree.

---

[7] *Memo: The vulnerability of Albanian households based on the Survey on Finances and Consumption of Albanian households by the BoA (Dushku, 2020).*

[8] *Only 30% of total households (or 215,825 households) in Albania have at least one loan. It is observed that the group of households with income below the 60th percentile are the most exposed to informal debt. Whereas households with income over the 60th percentile are the most exposed to formal debt and mainly to mortgage loans, which consists of around 55% of the bank credit portfolio (Dushku, 2020).*

Figure 6 The annual credit growth rate



Source: Bank of Albania.

However, the extension of loan payments might have had implications regarding the redistribution of losses from households to banks, if economic activity had not recovered and future uncertainty had not subdued. This is because once the measures were removed, they might have faced losses from insolvency, which would have increased risked assets risk, non-performing loans, thereby corroding their capital, increasing provisioning and decreasing banks' profits, and reducing credit supply. As a result, economic activity would have slowed down. Fortunately none of these negative scenarios materialised.

In conclusion, economic growth in 2020 was -3.9%, and it is expected to recover in 2021, above 7%, by continuing its positive trend over the next two years as well. Consumer prices and exchange rates remain stable and are not expected to experience fluctuations from internal factors. The banking system appears well-capitalised and stable. In spite of the shock, effects on the banking soundness indicators remain contained without impeding its stability. However, the economic outlook is accompanied by a high-level of uncertainty and downside risk. In the short run, risks are mostly related to the evolution of the pandemic, the severity and duration of measures and health care protocols, as well as hesitation from private consumption and investments due to the heightened uncertainty. In the long run, the main risks stem from structural transformations in the economy as a result of the changes in the behaviour of economic agents following the pandemic.

The high-level of uncertainty for the future is also underlined by individual households' balance sheets, which show that Albanian families are very heterogeneous in terms of income, real financial wealth, debt burden, and resilience against shocks on their income. This high heterogeneity affects the non-homogeneous transmission of monetary policy, as well as of various shocks that may impact the balance sheets and behaviour of households.

VI. CONCLUSION

The introduction explains that this book will continue to present a description of the events, an evaluation on the phenomena and a summary of the policies carried out by the Bank of Albania as a response to the negative shocks of the pandemic. It aims to analyse the success of these policies under the characteristics conditioned by the Albanian economy, from the stage of financial market development as well as the need to adopt its policies with these characteristics.

Up to the beginning of 2020, policy-making focused mainly on understating and assessing the shocks that stemmed from economic and financial phenomena. Other phenomena, such as natural ones ,belonged to academic debate and theoretical investigation, but were yet to become endogenous in the decision-making goals of central banks. After the pandemic, the role of this non-financial phenomenon took centre stage and the need to include them in the policy-making and institutional decision-making of public stakeholders became apparent.

The pandemic made us aware on the impact of immediate and unexpected shocks. What's more important is the fact that these shocks might challenge us beyond the usual scenarios adopted by central banks' decision-making. It brings to attention that these issues affecting the globe and, on first sight, seem to not have a direct association to central bank policies, possess the capacity to cause quite severe negative effects, thus they must be included as part of the normal scenarios of monetary policy and financial stability. Concretely, issues pertaining to the environment, global warming, demography and digital developments will dominate social and economic problems, as well as the technological and

political developments of the future. The climate, demographic and technological changes have a direct and strong impact on the factors of ouput and their productivity. As such these forces will play a decisive role on price and financial stability on a global scale, and must remain at the centre of attention of central banks, as being instrumental in price and financial balances.

ANNEX 1

Table 1: Summary of the measures undertaken by other central banks and the Bank of Albania

Policies undertaken	Instruments	Advanced economies	Small and developing economies	Albania:
I. Conventional Monetary policies	Lowering policy rate (below zero in small and emerging economies)	✓	✓	✓
	Tightening the policy rate corridor	✓	✓	✓
II. Lending operations	Increasing the frequency of REPO to a daily frequency	✓	✓	✓
	Reformatting REPO to (i) unlimited amount and (ii) duration up to 5 years (Croatia)	✓	✓	✓
	Easing the collateral criteria of lending operations	✓	✓	
III. Macro-prudential policy	Reduction of the mandatory reserve ratio.		✓	
	Reduction of the capital adequacy ratio in the framework of Basel III.	✓		
	Reduction of CCyB and other easing measures with a view to fulfil them.	✓	✓	✓
	Extending payment of loan instalments.		✓	✓
	Other regulatory measures: • temporary suspension/easing of Basel II and III criteria in terms of liquidity, loan/collateral ratio; dividend capitalisation • suspension of risk weighted criteria on securities • extension of the time required to fulfil non-critical regulations on banks	✓	✓	✓
IV. Non-conventional Monetary policies	Purchase of securities (up to 10-15% of GDP) to lower the time yield of public sector securities	✓	✓	
	Government programme to support small business with guaranteed small-sized loans.	✓	✓	✓

V. Interventions in the foreign exchange market (NTV)	Intervention in the foreign exchange market (NTV) to the function of (appreciation/depreciation of exchange rate). • In advanced economies (Croatia) and fixed exchange rate regimes (Denmark) NTV in the form of selling foreign currency to restrict depreciating/deviating trends Side effects: liquidity drainage • In the economies with a strong currency (Switzerland) considered "safe heaven," NTPs are applied to restrict appreciating trends on the domestic currency		✓	✓
VI. SWAP	SWAP contract with ECB or FED on foreign currency contingency lines, with a view to stabilise the currency or the potential crises of balance of payments. All the countries in Southeast Europe (SEE) have such SWAP lines.		✓	✓
VII.Forward Guidance	Intensive communication on adopted policies and those to be adopted in the future, as well as their duration.	✓	✓	✓

Measures to mitigate pandemic shocks have been implemented in a uniform manner by most economies, as described below.

- In addition to engaging and intensifying conventional policies (lowering the policy rate, increasing liquidity and other similar measures), banks in developed countries have used quantitative easing policies. At the centre of these policies is the expansion of central bank's balance sheets in relevant economies through buying securities in capital markets, known as quantitative easing programmes. These monetary easing practices became direct and permanent instruments of monetary policy, particularly under the condition of close-to-zero interest rates and the inefficiency of mechanisms of transmission of monetary policy. It is observed that these banks have expanded their balance sheet by 10% up to 13.3% of GDP, through buying

government and private sector securities [9].

- Central banks in other emerging countries have managed, when possible, to work by applying a lower expansion of their balance sheet, from 0.4% up to 5% of the GDP.
- At the same time, almost all countries implemented temporary easing of the regulatory framework of banking supervision and macroprudential policies by facilitating rules on capital, liquidity, loan restructuring and, to address the financial stability issue, elimination of regulatory restrictions on credit supply and enhancement of banks' lending capacity.
- Another group of central banks signed SWAP contracts or REPO lines in foreign currency with the ECB and the FED, and intervened to mitigate exchange rate fluctuations with a view to guarantee financial stability under the conditions of financial turmoil.

[9] *ECB balance sheet data analyses show that from 15 March 2020 until November 2020, its balance increased by EUR 2.0 trillion, or around 43% of the ECB balance sheet. The total of ECB balance sheet expansion might reach from EUR 2 to 3 trillion, if credit to financial institutions is included as well. This signifies that global liquidity has expanded by 7% or 11% compared to the pre-pandemic liquidity level. This expansion is expected to have an impact on the Albanian economy, on its key macroeconomic indicators.*

ANNEX 2
THE CHRONOLOGICAL CALENDAR OF THE COVID-19 PANDEMIC IN ALBANIA 2020-2021

12 January 2020
World Health Organisation (WHO) confirmed that a new coronavirus was the cause of a respiratory sickness in a group of people in Wuhan, Hubei.

25 February 2020
Head of National Emergency, Mr.Skënder Brataj, declared that COVID-19 had not yet appeared in Albania. He presented the protocol of COVID-19 spread in Albania, clarifying that citizens who manifested signs of the virus should dial 127, the number assigned by the National Emergency.
Representatives of the Ministry of Health and Social Protection met with the Technical Experts Committee and decided to increase the hospital budget by US 1 million.

8 March 2020
Albania confirmed the first two cases with coronavirus, a father and son, who had travelled from Florence, Italy.

8 March 2020
The Albanian government suspended flights from Northern Italy. Minister of Health and Social Protection, Mrs. Ogeta Manastirliu notified that whoever entered Albania from quarantined areas in Italy, should isolate and those who didn't not follow the instructions would face penalties.

8-Mar-2020
Albanian government closed schools down.

10 March 2020
Albanian citizens received a text message from Prime Minister Edi Rama on the new lockdown policies and protective measures against COVID-19.

Government increased wages of health employees.
All public places were disinfected.
Bars, restaurants, gyms, discos and live music venues were closed.
Individual cars were banned from public commuting. Army and Police patrolled roads, fining citizens who didn't follow the rules.
Religious activities were suspended.

11 March 2020
The first loss of life from coronavirus in Albania, a woman 73 years old from Durrës.

12 March 2020
Start of COVID-19 tests. First result: 23 infected people.

12-16 March 2020
All commercial banks were closed. ATM-s were working.

13-15 March 2020 (Weekend)
The government closed Tirana and big cities. Only pharmacies and food stores were allowed to remain opened.

15 March 2020
Albania closed all its land borders until further notification.

16 March 2020 (Isolation starts)
Government suspended all flights from Great Britain.
Government approved one "emergency legislation", called "normative act", which is an emergency law that came into force without the preliminary approval of the Parliament IN these legislation dominates fines applied for citizens who broke anti COVID-19 rules. A national curfew was applied. Citizens must stay home from18:00- 6:00 the following day.

17 March 2020
55 infected persons.

27 March 2020
Citizens received permission from e-Albania platform to go outside, only for necessities, for only 1 hour, from 05.00-13.00. Pensioners

were not allowed to go out. Persons that went to work received special permission.

29 March 2020
Albanian government helped Italy by sending 30 health employees to Lombardy.

25 April 2020 (the reopening stage)
Minister of Health and Social Protection Mrs. Ogerta Manastirliu notified the division of "Redland "Green" areas and plans to facilitate movement within them. In the "Green areas" pensioners were allowed to go out of the house between 6:00 - 8:30 and other citizens between 9:30 -17:30, but unaccompanied by others. Cars are allowed to circulate between 9:30 - 17:30, under the condition that the drives has only one passenger.

26 May 2020 (second reopening stage)
Minister of Health and Social Protection, Mrs. Ogerta Manastirliu notified that the second stage of reopening would start with opening of pre-schools in June 1, 2020.

8 October 2020
Albanian government forgives the fees for citizens who have broken COVID-19 rules during 7 months of the pandemic and returns the suspended cars and driver's licenses.

11 November 2020
Citizens can go out of the house between 22:00 - 06:00, only after receiving permission from e-Albania, for work that is necessary.

1 December 2020
Minister of Education Evis Kushi notifies initially that teaching will be carried both online and in class.

School year 2020-2021
Schools carryon their lessons both online and in class, taking shifts

2 February 2021
The first anti COVID-19 vaccines arrive in Albania from BioNTech-

Pfizer, which were used for health personnel and the most endangered group age.

24 September 2021
Massive vaccination starts.

20 August 2021
Minister of Sport and Education, Mrs Evis Kushi notifies the beginning of school, starting from 1 September 2021.

27 September 2021
Schools starts with a regular schedule.

School year 2021-2022
Schools carry their lessons as normal.

4 October 2021
Statistics for Albania according to ODA (Open Data Albania):
Total number of tested: 1212575 (42.14% of population);
Number of infected: 172001 (14.18% of the total tested);
Number of deaths: 2718;
Number of recovered patients: 160628;
Infected in young age: 2 months-old; the oldest age: 96 years-old;
Total population: 2 829 741.

CHAPTER II: MONETARY POLICY IMPLEMENTATION AND IMPORTANCE OF BANKING STABILITY IN ALBANIA OVER THE LAST TWO DECADES

I. INTRODUCTION

The Bank of Albania pursuant to the Law "On the Bank of Albania" is the sole monetary authority in the Republic of Albania. Its primary objective is to achieve and maintain price stability in the medium-term period. In compliance with this objective, the Bank of Albania formulates and implements the monetary policy aimed at providing a comprehensive framework within which decisions on the adequate policy rate level are taken. To this end, the Bank of Albania drafts and implements its strategy for supporting this policy.

This strategy is based on a range of principles, objectives and intermediate instruments which aim to ensure a successful development of the monetary policy. The central bank employs these elements to intervene in financial markets and in the economy to guarantee its primary objective, which is price stability.

Theory and practice worldwide suggest that price stability is the greatest contribution that a central bank can provide for bolstering long-term economic growth of the country. In more concrete terms, through guaranteeing the price stability, the Bank of Albania provides a direct contribution in: safeguarding the macroeconomic equilibriums of the country; reducing risk premia; enhancing the

sustainable economic growth and long-term improvement of welfare; as well as supporting the financial system stability.

In quantitative terms, the main objective of the Bank of Albania - price stability - is defined in terms of the annual rate of change in the Consumer Price Index, which is measured and published by INSTAT. At the beginning, this objective was within the band 2-4%. Since 2006, this objective was re-defined in numerical terms, at 3%, with a fluctuation tolerance of one percentage point around the central rate. Since 2015[1], for better anchoring inflation expectations, in terms of consumer, inflation target is 3%. An inflation target level of 3% is in line with the development stage of the Albanian economy as a small, open and emerging economy, based on: the technological evolution of products and their qualitative improvement; the convergence process with the developed economies; the intermediate function of the financial system (BoA, 2015).

First, monetary policy framework was based on monetary targeting regime, which was implemented till 2009. Since then, inflation targeting turned to become the operational framework of monetary policy pursuant to this regime. The Bank of Albania bases its monetary policy decision-making on a thorough analysis of economic, monetary and financial indicators, where the deviation of the forecast inflation from the target is the main indicator of the balance of inflationary pressures. Forecast inflation is the main pushing force behind the monetary policy actions, while developments in other macroeconomic and financial indicators serve to judge their impact on price stability.

Overall, the monetary policy approach of the Bank of Albania is organised into two pillars, and is similar to the monetary policy approach of the European Central Bank (ECB)[2]. On one side, it is the monetary pillar, which shows the importance of money and its relationship to inflation, because in long term, inflation is mainly a monetary phenomenon.
Meanwhile the second pillar is based on the approach that real factors determine the long-term economic growth, including sources,

[1] *Monetary Policy Document, 2015.*

[2] *See also Shijaku (2012).*

work and capital, increase of labour force and its technical skills, technology etc. In this regard, the monetary policy through the price stability helps economy to reach its growth potential. In this view, the monetary policy takes into account a considerable range of economic, monetary and financial indicators, which give adequate information on the current and future development in prices, as well as on the risk to price stability in a medium-term period.

Within this regime, the main indicator of the balance of inflationary pressures in the economy is the deviation of the medium-term forecast inflation from the target. The decision-making has also into account a considerable number of other indicators, including economic agents' expectations on the economic performance in the future, assessment on potential output and output gap, fiscal, monetary and financial developments, developments in foreign exchange rate, in labour market indicators and development in foreign prices. These elements affect and determine the future behaviour of prices.

The Bank of Albania, through a full view on the future developments of inflation and other macroeconomic and financial indicators, aims at assessing the impact that these indicators will have simultaneously on the price stability, and consequently on the decisions for the monetary policy. Empirical assessments show that monetary policy's effects are transmitted to the economy with time lags, assessed to vary from 8 months to 12 months. That is why the expected performance of inflation in the medium term guides the monetary policy.

Decisions on the monetary policy are taken in presence of uncertainties related to the assessment of the current situation and expected developments in the economy. In this view, the Bank of Albania aims to implement a prudential forward-looking monetary policy, which takes into account the assumptions and the time of their assessment, to ensure a reliable, transparent and balanced decision-making for guaranteeing price stability.

In addition to the primary objective, the Bank of Albania has operational objectives, which establish the link between monetary policy operations and its primary objective. The choice of these operational objectives depends on the monetary policy regime

and the level of economic and financial market development. The operational objective of the Bank of Albania's monetary policy is to steer short-term interbank rates close to the Bank of Albania's key interest rate, and to minimize their volatility Monetary Policy Document, 2015).

Therefore, to achieve its quantitative objectives and signal the monetary policy actions, the Bank of Albania mainly employs these instruments: open market operations; standing facilities; the required reserve; liquidity management and monetary policy implementation. The Bank of Albania employs open market operations, mainly through the one-week Repurchase (REPO) and reverse repurchase agreements (reverse REPO), to temporary either decrease or increase liquidity in the banking system. In this context, Repo (or reverse Repo) constitutes the main interest rate which states the central bank's monetary policy stance, and serves as a reference system for other interest rates and to contain their volatility. The achievement of this objective is assumed to enhance the effectiveness and transparency of monetary policy, by helping in a better control of long-term interest rates in the economy. Box 1 visualises the transmission mechanism of monetary policy, through the impact of policy rate on inflation particularly, and on the other indicators. This scheme presents in a simplified way the entire process (which in reality is more complicated and non-linear), but mostly serves to understand and illustrate the main channels which are affected by the changes of monetary policy.

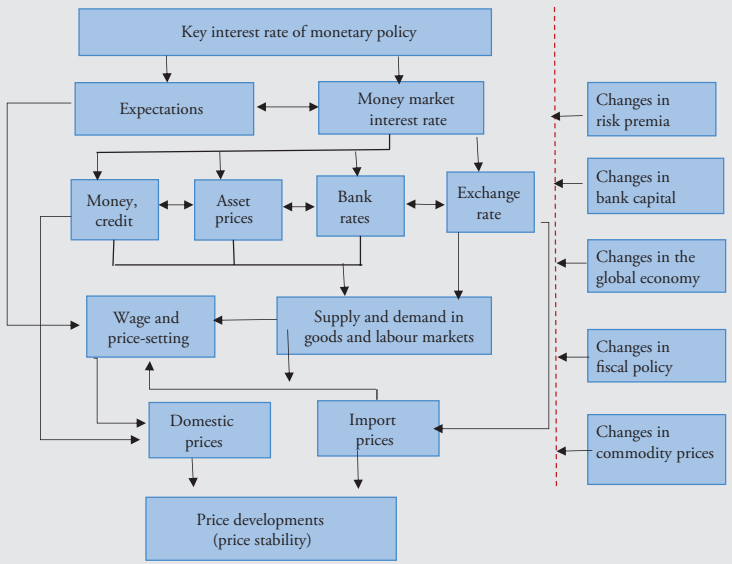
Box 1: Schematic illustration of the transmission mechanism of monetary policy

The transmission mechanism of monetary policy is the process through which monetary policy decisions of the central bank affect the economy in general and the price level in particular. This process affects a certain number of economic and financial indicators, with a time lag from 8-12 months. It is difficult to predict the precise effect of monetary policy decisions on the economy and price level. The determination of this rate is based on the relevant information

and thoroughly analysis about the economy and main domestic and external factors that affect it.

Figure 1 below provides a schematic illustration of the main transmission channels of monetary policy, from the key interest rate to inflation and economic activity in Albania. The central bank is the sole authority over the issuing of money; it is the sole authority that fully determines the key interest rate of monetary policy. The other rates follow the policy rate. The main transmission channels of monetary policy decisions on the key interest rate are.

Figure 1 Transmission mechanism of monetary policy



- ***Impact on banks and money-market interest rates*** *The change in the official interest rates affects directly money-market interest rates[3] (money market rate) and, indirectly, lending and deposit rates, which are set by banks to their customers, mainly households and enterprises.*

[3] *Money markets are the markets where securities with short maturity term, up to one year, are traded. The Bank of Albania carries out temporary operations of injection and withdrawal of liquidity so as to orient the interest rate in the interbank market towards the key interest rate.*

- ***Impact on the expectations of economic agents.*** *Expectations on the key interest rate of the monetary policy affect the medium and long-term interest rates. Long-term interest rates are affected by the expectations about the short-term rates.*

Monetary policy can affect the economic agents' expectations on the expected inflation, and affects the performance of prices. A central bank with a high degree of credibility drives expectations of economic agents related to prices to anchor towards inflation targeting, thus driving economic agents do not have to either increase or decrease their prices for fear of either higher inflation or deflation.

- ***Impact on asset prices.*** *Asset prices ((e.g. stock market prices, real estate prices) and exchange rate are affected as a result of monetary policy decisions, given the financial conditions and economic agents' exceptions for the future. On the other hand, changes in the exchange rate can affect inflation directly, driven by the imported goods which affect consumption, but also in other channels and indicators.*

- ***Impact on saving and investment decisions.*** *Changes in interest rates of deposits and loans affect saving and investment behaviour of households and firms. For example, if assuming that everything else remains unchanged, an increase in the interest rates drives to a decrease in the loan demand from households for financing their consumption or investment, the opposite happens when interest rate on loans decrease.*

On the other hand consumption and investment are affected by changes in asset prices via wealth effects and effects on the value of their collateral. For example, if equity or real estate prices rise, this drives to the increase of their value, driving households toe share-owning households become wealthier and affect the increase in consumption. Meanwhile, when equity prices fall, households may reduce consumption.

Asset prices can also have impact on aggregate demand via the value of collateral, as their increase drives to the growth of collateral value and thus that affects the borrower to get more loans and/or to reduce the risk premia demanded by lenders/banks.

- ***Impact on aggregate demand and prices.*** *Changes in consumption and investment will change the relative demand for goods and services. When*

aggregate demand is higher than supply, then prices will push up. Changes in aggregate demand affect the labour demand and ions and the intermediate product markets, which in turn can affect wages and prices the respective markets.

- ***Impact of loan supply from banks.*** *Changes in the key interest rate of the monetary policy affect banks' marginal cost for obtaining funds, depending on the level of a bank's own resources, or bank capital. This channel is particularly relevant in time of crises, when capital is scarcer and banks find it more difficult to find funds for raising capital. In addition to the traditional bank lending channel, which focuses on the quantity of loans supplied, it is the risk-taking channel related to banks' incentive to bear risk. The channel operates via two mechanisms. First, low interest rates boost asset and collateral values. This, when this increase in asset values is sustainable, leads both borrowers and banks to accept higher risks. Second, low interest rates make riskier assets more attractive, as agents search for higher yields. As a result of both effects, banks mitigate credit standards, which in turn drive to an excessive increase in loan supply, which in future leads to a financial instability.*

In addition to the implementation of monetary policy, the Bank of Albania in its decision making is guided by other principles as well. The free-floating exchange rate regime and foreign currency reserve management is an important principle. This regime is based on the fact that the value of lek against foreign currencies is freely determined in the foreign exchange market. Meanwhile, the exchange rate fluctuations reflect the free movement of goods and capital and the financial and trade transactions of Albania with its trading partners.

On one side, the free-floating exchange rate regime provides the Bank of Albania's monetary policy with maximum flexibility in achieving inflation target. On the other side, it provides the Albanian economy with a useful tool to cope with various economic shocks by quickly restoring the equilibrium in trade transactions with abroad. Consistent with its monetary policy, the Bank of Albania is committed to holding a sufficient level of foreign reserves, by simultaneously observing both quantitative criteria, which serves as a cushion to cope with severe shocks that might hit the real sector of

the economy, and to safeguard the country's financial stability (Bank of Albania 2015):

(i) The foreign reserve levels should be sufficient to cover at least 4 months of imports of goods and services in the medium run;

(ii) The foreign reserve levels should be sufficient to cover the short-term external debt of the Albanian economy in the medium run.

With a view to observe these objectives and contribute to the stability and development of domestic financial markets, the Bank of Albania may intervene in the domestic foreign exchange market to meet liquidity needs in foreign currency, for the implementation of the monetary policy and exchange rate policy, and to meet the country's needs in period of crises.

These interventions do not reflect the monetary policy stance; they do not affect the achievement of the Bank of Albania's main objective. The Bank of Albania intervenes in the foreign exchange market in accordance with the relevant regulations, which are transparent and made public. In compliance with the principles of monetary policy framework, the Bank of Albania does not have any definite commitments related to interventions the foreign exchange market , to define the exchange rate level.

The other principle relates to the assumption that monetary policy can have undesirable effects on various economic and financial indicators. It is thought the transmission of these effects may increase the risks to price stability at a future time[4]. Thus, in compliance with its main objective, the Bank of Albania encourages, supports and promotes the financial system stability. In this regard, the Bank of Albania, in capacity as the only authority responsible for the licensing, regulation and supervision of banks, enhances public confidence to domestic financial institutions, markets and infrastructure, by regularly identifying and analysing the risks and threats to the financial stability.

[4] *See Bank of Albania (2015).*

Maintaining the liquidity level, solvency, and the smooth functioning of a banking system based on market principles[5], remains a priority, which serves to both price stability and macroeconomic stability of Albania. The global financial crisis in 2007 - 2009, re-emphasised the importance of the sustained financial system to the economy.

In this regard, the Bank of Albania plays a primary role for the implementation of macro-prudential policy, though which it is committed in assessing, monitoring and identifying the actions to address the risks to the financial system, focusing particularly on the systemic risks to the banking sector.

Whenever necessary, this activity is carried out in collaboration with other public authorities, based on the best international standards and the procedures in place in Albania. Also, the macro-prudential policy strategy contains a range of intermediary objectives which correspond to the main risks that are continuously observed by the Bank of Albania. This process takes place in parallel with the regulation and supervision process of banks and other entities being granted a license by the Bank of Albania, to: (i) safeguard the financial soundness and financial stability of Albania; (ii) prevent crisis and protect depositors; (iii) monitor developments in market and recommend the necessary measures; (iv) to encourage market discipline, by requesting the increase of transparency for the banking and financial products and services; and (iv) to promote the development of a fair competition and equal treatment.

On the other hand, the Bank of Albania, since 2017, is the only Resolution Authority in Albania, aiming to: ensure continuity of the bank's critical functions; safeguard public interests and financial stability; and minimize costs to taxpayers. In this capacity, the Bank of Albania guarantees an organised intervention in insolvent banks, by minimising the possible impact on the real economy, public finances and financial stability.

All the functions and attributes that the Bank of Albania enjoys, as a modern central bank, enable it that within the legal framework acts with responsibility, transparency and credibility to achieve its main

[5] *See Bank of Albania 2019.*

objective, the intermediate objectives, and in turn to enable their interconnection.

Nevertheless, developments that led to the global financial crisis in 2007-2012, followed by the great contraction of global economic activity, re-opened once again the debate on the particular relationship between the monetary policy and the sustainability of financial markets and institutions. In one hand, the global financial crisis clearly showed that developments in financial sector are critical for the transmission of monetary policy effects to the real economy. On the other hand, it showed that the achievement and sustained preservation of price level, in compliance with the inflation targeting regime, should be coordinated in lien with the other objectives related to the financial and macroeconomic conditions. As in most banking crises, the global financial crisis showed that when the credit cycle reverses, bank conditions become crucial for the transmission of monetary policy.

Empirical literature assessing the relation between monetary policy and financial stability shows mild evidence between them Albertazzi et al., (2020). Overall, most of the pre-crisis empirical literature yielded insignificant or mild results displaying that bank lending channel or financial sector conditions do not serve to monetary policy transmission. One reason behind the lack of evidences on this connection is attached to the traditional analysing models of bank lending channel, which are unable to assess the systemic risk.

Nevertheless, some exclusions, overall, there were a few analysis of the spiral effects that pass through from monetary policy to bank stability. On the other hand, Albertazzi, et al., (2020), related to the global financial crisis, notes that, when the credit cycle reverses, bank conditions become crucial for the transmission of monetary policy.

Therefore, there are clear evidences which prove that heterogeneity in bank conditions (such as funding or capitalisation) accentuated the drop in credit supply by some banks, and further obstructed the transmission of monetary policy. Nevertheless, Bean, et.al (2010) shows that the reaction of monetary policy towards this situation and the increased financial stress has not been always equal. In some

cases, reactions of advanced countries have been, overall, asymmetric; while in other developing countries the reaction was higher and at the same time non-linear[6].

It is assessed that there are still unclear aspects to discover systemic risks, which have raised a broad debate amid policy makers and academics on the reason why financial stability should be an objective of monetary policy. The latest experience, in many central banks, suggest that to adequately carry out the main task for successfully achieving and maintaining the stability of prices, there should be taken into account a range of accompanying circumstances within which both policies and institutions evolve.

The continuous presence of risks related to the fragility of financial system is one of the most problematic developments. This concern arises the question what should central banks do in circumstances of persistent problems related to financial fragility, while economic conditions call for a swifter and stronger interventions through the right policies.

In this regard, analyses and research papers of the Bank of Albania have paid special attention to the connection of monetary policy, financial stability and the interaction between them. This chapter exhibits a full view of the monetary policy implementation of the Bank of Albania, in the last two decades, and the way how the Bank of Albania has focused its decision making on financial stability. Results from the Bank of Albania' research works, completed with the relevant assessments on the function of monetary policy reaction in Albania, provide this full view. In parallel, a complete view with the main issues related to the non-functioning and genuine characteristics, composed of: short-term interest rate[7], as the main indirect instrument for the monetary policy implementation, the operation of an inflation targeting regime, and implementation of a free-floating exchange rate regime.

---

[6] *See also Caputo (2005); and Floro and Roye (2017).*

[7] *Since the third quarter of 2020, the Bank of Albania implements the monetary policy through the employment of direct instruments consisting of a reference key rate; such are the seven days maturities (reverse) repurchase applied in the regular weekly auctions of the Bank of Albania, known as REPO and reverse REPO, respectively.*

Empirical results assessing the monetary policy reaction of the Bank of Albania, based on Taylor rule show that monetary policy implementation is in pursuit of inflation targeting regime principles, where price stability as the main objective remains in its policy reaction.

In addition, results show that the transmission of monetary policy's effects is closely related to the economic and financial developments in Albania, where the sustainability of financial stability has become a crucial important element for the implementation of monetary policy, mainly after the global financial crisis.

Furthermore, results promote a prudential monetary policy, which coupled with other macro-prudential policies, are the best contribution that the Bank of Albania may give for achieving price stability and bolstering economic growth of Albania, both in the short run and in long-term period.

This chapter is organised as follows: The next part provides a summary of theoretical and empirical literature relation to the connection in time between the monetary policy stance and financial (banking) sector stability. Then, there are shown some assessments on the monetary policy implementation in Albania over the last two decades and their implications. The last part briefly displays the main empirical findings and shows the ways for future researches.

II. REVIEW OF LITERATURE: WHAT HAVE WE LEARNED SO FAR?

The debate, if the central bank should react or no against the misbalances in the financial sector, used to be and still remains a discussable issue in the last decade. Prior to the global financial crisis, there was a view that monetary policy should not react against the financial sector flourishing as it is costly and may cause significant damages to the economy. Nevertheless, after the global financial crisis, evidences related to the financial stability role in monetary policy in some directions, have been increased and enriched. First, many available evidences show that high increase of assets/loan prices are related to the financial crisis (e.g. Borio and Drehmann (2009),

Schularick and Taylor (2012), Jordà et al., (2015), Brunnermeier and Schnabel (2016), Mian et al., (2017)).).

Second, there are many studies showing the existence of monetary policy risk-taking channel, e.g. Borio and Zhu (2008), Adrian and Shin (2010), Jimenez et al (2012), Dell'Ariccia et al. (2017)). Third, developments in economic theory shed more lights on the implications of financial market imperfections for macroeconomic outcomes (Classens and Kose (2017). All above have brought once more at the heart of the debate the role of monetary policy in the framework of financial stability.

From some decades, achieving and maintaining price stability has become the main objective of monetary policy of central banks in both advanced and developing countries. This goal, as suggested by Loayza and Schmidt-Hebbel (2002), is randomly determined in the laws on central banks in many countries.

Considering the recent developments in economy, both after the global financial crisis, and the one caused by the pandemic, most central banks have modernised and adopted their monetary policy framework. Thus, in addition to the main objective, central banks have turned their attention also on episodes related to possible risks to the financial system, which would obstacle the achievement of the main objective in a second moment.

In some cases, central banks have the mandate to preserve also the financial stability, as a second objective of their policy. This objective, usually, is a complementary one, but it may become a primary objective, thus driving policy makers to optimise their decision-making by interconnecting the objectives, which change frequently during business and credit cycles. The support to this approach is divided between those claiming that price stability is almost a necessary and sufficient condition to financial stability, and those that are more prudential and accept that price stability will tend to promote financial stability.

Mester (2021) notes that if the economy is already close to its monetary policy goal for maximum employment and price stability,

then the continuous rather low interest rates to become closer to these goals may contribute in an increase of financial weaknesses. This enables the possibility for a next financial instability that may jeopardise the achievement of monetary policy objectives over time. Nevertheless, according to Issing (2003) the high volatility in inflation increases the likelihood of misperceptions about future return possibilities, thus turning into as one of the major factors creating financial instability in the first place.

On the other hand, inflation worsens the asymmetric information problem between lenders and borrowers. Also, this author notes that a business cycle boom accompanied by high inflation is traditionally considered as the typical environment in which real over-investment and asset price bubbles blossom.

Excess liquidity provided by the central bank is one of the main factors responsible for the development of weak lending standards. Excessive credit growth, in view of realistic return expectations, is often the foundation for financial instability. According to the author, stable prices and a monetary policy focused on that objective play an important role for stable financial markets, though it should be accepted that price stability and financial stability tend to mutually reinforce each other in the long run.

Another suggestion is related to the argument that under inflation targeting regime, the choice of the monetary policy strategy has implications for financial stability and could at the margin even be decisive to prevent the crisis and allow the system to recover. The argument here is that, truly optimal monetary policy cannot avoid that, at times, strains in the financial system might be such that deviations from the desired inflation rate during shorter periods of time have to be accepted, in order to preserve price stability over the medium to long run

Nevertheless, Albertazi, at al., (2020) show that evidence on these is abundant. Prior to the global financial crisis, there was no meaningful evidence of a bank lending channel or financial (banking) sector conditions affect the monetary policy transmission mechanism. This was mainly due to the fact that traditional models

of the bank lending channel were not able to capture underlying, but growing, systemic risks. Some academic studies support the view on the weak transmission due to poor developed financial markets, which is a problem in developing countries [Mishra, et al., (2012)]. Other studies, like Berg, et al., (2013) argue that failures to discover transmission in low-income countries frequently are driven by the methodological data and problems. Also, as Albertazzi, et al., (2020), find, with few exceptions, there was also scant analysis of the possible spillovers from monetary policy to financial (bank) sector stability. In one hand, the global financial crisis showed that when the credit cycle reverses, bank conditions become crucial for the transmission of monetary policy. On the other hand, disequilibrium in the financial sector may be created also in an environment with stable prices, which imply that central banks should be aware that price stability is not a sufficient condition for the financial stability.

Among these factors, there is evidence suggesting that heterogeneity in bank conditions (such as funding or capitalisation) accentuated the drop in credit supply by some banks, and further obstructed the transmission of monetary policy. Also, Bean, et al., (2010) state that the recent evidence shows that monetary policy reaction to this situation and the increase financial stress has not been always equal. In some cases, reaction in advanced countries has been, overall, asymmetric, while in other developing countries as been relatively greater and at the same time non-linear[8].

Bean, et al., (2010), explains that the transmission of monetary policy effects, in this case, passes through money channel and credit channel to the economy. The effects pass through of monetary policy in view of bank lending channel, as Stiglitz (2017) states, may function through two channels: borrower' balance sheet channel and bank lending channel. For example, in view of traditional role of money, interest rate channel is a key transmission mechanism of monetary policy. The central bank sets the very short-term nominal interest rates to affect the long-term real interest rate.

The latter affect the overall level of investments and consumption. In this view, a tightened monetary policy is expected to increase the

[8] *See Caputo (2009); Floro and Roye (2017).*

real interest rates, and consequently the capital cost to current and potential borrowers. This would bring about a fall in investments, by driving to a drop in the demand and overall production and causing a domino effect on the other macroeconomic and financial indicators, and vice versa. On the other hand, many recent studies show that monetary policy effects are transmitted to economy in two directions.

First, it is shown[9] that given the low yields curve, a higher debt level may weight on the economic agents, argued that their level may remain unchanged for a long period. Thus, their solvency may precipitate into a potential risk to systemic risk as in case after their increase. This implies that what is assessed at the beginning as a good solvency, my result a bad one along the increase of rates. In this case, nevertheless, it should be accepted what may be lost from the increase of interest rates is expected to be obtained from the increase of payment ability due to the economic growth. In this view, the trajectory of interest rates is expected to occur if inflationary pressures are beyond the central bank's objective, which as Gross (2018) states, under the low interest rates, their increase is not expected to affect the financial system stability.

Second, according to Rajan (2005) low funding costs for banks, coupled with the low returns from governments securities, due to the low level of yield curve, close to the threshold lower than zero, affect the lower interest margins, which - as all other things are equal - imply a decrease of profitability, and particularly a reduction of net interest income of banks, thus increasing the banks' incentives to "search for yield" go up.

Some authors[10] think that the current lower profitability also the expected one, have the tendency to worsen capital position of banks and to damage their capacity of intermediation. In one hand, to preserve their profit margins, banks tend to artificially increase the value of collaterals. On the other hand, banks may react against low margins, by re-balancing their portfolios toward riskier assets

[9] *See, Maddaloni and Peydró (2011); Jiménez, et al. (2012, 2014); Altunbaş, et al., (2010, 2014); and Dell'Ariccia, et al. (2017).*

[10] *Van den Heuvel (2002); and Dell'Ariccia, et al., (2014).*

searching for higher expected returns, which may feed the increase of risk, driving to financial instability of banking sector[11]. Albertazzi, et al., (2020), find another way in which low interest rates could make banks take on more risk is through their impact on valuations, incomes and cash flows. A reduction in the policy rate tends to urge banks to artificially increase asset and collateral values, which in turn modify banks' estimates of probabilities of default, caused by lost and instability, by increasing their risk tolerance.

This is the reason why some recent studies are focused more concretely on the link between the monetary policy stance and the financial stability. The purpose is to investigate if financial stability has a role in the monetary policy decision-making. In this case, the main hypothesis is if central banks do take account financial stability when deciding on the actions of monetary policy (decision making on the key interest rate). This hypothesis is tested by presenting an indicator of financial stability (being a composite financial stability index or an economic indicator strongly related to these developments depending on the specific selection of a country and/or methodology).

III. EMPIRICAL METHODOLOGY AND RESULTS

In the monetary policy paradigm, as I mentioned above, even the highest interest rate is the main instrument of the central bank to achieving its main objective. Taylor (1993), in his main contribution, has proposed a simple general rule, known after his name, and describes the relationship between the interest rate of the central bank and its objectives related to inflation rate and boosting the growth of gross domestic product in the medium term. In one hand, this rule is interpreted as a way to forecast in a timely manner the monetary policy stance of the central bank. In the other hand, this rule is assessed as a fixed rule policy to guide monetary policy in response to changes in the macroeconomic conditions of a country. Nevertheless, nowadays, it has become a popular gauge for assessments of the monetary policy stance in both advanced economies and emerging market economies (EMEs) Hofmann and

[11] *See, Borio, et al., (2017); Borio and Gambacorta (2017).*

Bogdanova (2012)). This is the reason there is a broad why scientific research related to this rule turning it the most popular method to describe the monetary policy reaction of central banks.

In principle, this rule suggests how the central bank changes its instrument, the short-term policy rate, for meeting its objectives related to two factors: the deviation between desired (targeted) inflation rate and the actual inflation rate; as well as the deviation between real GDP growth and the potential GDP growth rates. The main assumption of this rule is that the central bank should raise the policy rate to react against inflation increases above its targeted rated, and/or when economic activity growth is above the potential output, showing an economic overheating and vice versa. Overall, this rule is known as Taylor rule, attributed to the author who proposed this reaction function of the Fed monetary policy.[12]

In literature, there is a range of works that address in a theoretical and empirical way the monetary policy function of central bank. We are exactly based on this literature to assess a standard function of monetary policy reaction, to see how the key interest rate of the Bank of Albania has reacted to the changes in both inflation and economic activity against the targeted level. Also, this rule has been expanded through the inclusion of a financial stability indicator to assess the impact that this indicator has on the functioning of monetary policy and to measure its reaction degree to the sustained developments of financial system.

Standard function for the assessment of monetary policy reaction is presented below:

$$r_t = r^* + \beta_p (\bar{p}_t - p^*) + \beta_y (y_t - y_t^*) \qquad (1)$$

[12] *According to original Taylor rule, it is assumed that the key rate of monetary policy increases by 0.5 percentage point (i) for each one percentage point raise of inflation against the target; and (ii) for each percentage point of output above its potential That is, this rule assumes that the central bank adjust its monetary policy instrument (policy rate) in response to the observed deviation of inflation and economic activity from their desired long-term equilibriums, which are represented by the targeted level of price stability and the potential economic growth. In this regard, Taylor rule suggest that when inflation is at target and output at potential (output gap is zero), the central bank should set forth the key interest rate at 2% compared with its historical average.*

where key rate of monetary policy (is presented as a function of natural interest rate, reaction of the interest rate to inflation deviation from target and interest rate reaction to real output deviation from its potential. The interconnection of empirical findings in theoretically addressing the Taylor rule, Swensson (1999) and Woodford (2001) highlights that this function of monetary policy reaction is adequate to a central bank which operates the inflation targeting regime. Sauer and Sturm (2007) state that the inclusion of both deviations, inflation from target and real gross domestic product from its potential, shows that both are crucial elements of monetary policy reaction which impact on analysing the risks to financial stability and in determining its behaviour in the future.

In this material, to assess if the monetary policy has reacted to changes in inflation gap and output gap and the respective degree, we are based on the approach developed by Clarida, et al., (1998) and Clarida, et al., (2000). This approach incorporates also the autoregressive behaviour of monetary policy reaction, which is in line with the principle that monetary policy adjusts the short-term rate towards the natural rate of interest. Furthermore, we have assessed the monetary policy reaction to financial system imbalances, based on the model proposed by Baxa, et.al., (2013). Box 2 provides more details related to the specification of optimal reaction function of monetary policy.

Box 2: Estimation of optimal monetary policy reaction function

The most common form related to the monetary policy reaction in literature is the one employed by Clarida, et al., (1998) and Clarida, et al., (2000), which is presented following:

$$r_t=(1-\beta_r)*(\beta_0+\beta_{\hat{p}}\ \hat{p}_{t+1}+\beta_{\hat{y}}\ \hat{y}_{t-1})+\beta_i\ r_{t-1}+\varepsilon_t \qquad (2)$$

where, β_0 is a constant and states the optimal level (equilibrium) of the long-term interest rate. This is known also as the level of the natural rate of interest[13], which guarantees the accomplishment of the central bank's objective without jeopardising the other macroeconomic indicators. $\hat{p}$ captures the identity ($p-p^*$) and expresses the difference between the deviation of current inflation rate from its target in t period; $\hat{y}$ is the output gap; r_{t-1} nominal rate of interest for the previous period; β_r is the smoothing effect of interest rate and refers to the mechanisms through which the current interest rates are partially adapted towards the optimal desired level r^*, according to the identity. The value of coefficient [14] shows the autoregressive behaviour of the short-term interest rate, which shows the degree of monetary policy reaction to the need for adjusting the level of short -term rates towards the natural rate. If its value is quite high, then this implies a slow adjustment process; and captures the effect of monetary policy reaction in response to the deviation of current inflation rate and output level from target rates, which are expected to have positive values. Clarida, et al. (2000), based on the crucial principle of Taylor rule > 1,which implies that the rate of monetary policy is adjusted more quickly and at a higher extent than the deviation rate of inflation from target, otherwise the subdue effect of real rate is expected to accommodate inflation in a pro-cyclical manner. This is known as the stability condition of Taylor rule According to Mohanty and Klau (2004) if the empirical estimation does not meet the stability condition, as suggested by these authors, it is difficult to address to the Taylor rule as a gauge to implement and analyse this policy. Thus, the decisive condition for the stability of this model, is the value of should be higher than 1, otherwise the stability condition is not met. Last, is the Lagrange error term related to Taylor rule. This indicator shows the difference between the optimal value of interest rate estimated pursuant to the Taylor rule function and the current

[13] *See another work from Markov and Nitschka (2013).*

[14] *It is suggested that smoothing parameter has a value 0 ≤ ≤ 1. If = 0, then it is assumed there is no an inertia of the interest rate, then our model reduces in a simple Taylor rule.*

value of this rate. On the other hand, based on the suggestion by Brandao-Marques, et al., (2020), aims at actively maintaining the short-term interest rate systemically close to its policy rate, and then the error term is expected to capture the real monetary policy shocks.

From the empirical view, the literature offers a range of works where Taylor rule is employed to prove the hypotheses on the monetary policy reactions to other economic developments. In this view, Baxa, et al., (2013)[15], provide an expanded model of this rule, which in addition to the traditionally included indicators in Taylor rule, as inflation and output gap, also included an additional indicator like the one of financial (banking) stability. Hofman and Bogdanova (2012), state that the traditional Taylor rule might not adequately capture the factors that are relevant for macroeconomic stability. As a consequence, the Taylor rule is likely to have a downward bias during financial booms and an upward bias during financial busts. This may be corrected with the inclusion of an indicator related to these crisis episodes, to see if the direct effect of this indicator to the interest rate is important in qualitative terms, as shown following:

$$r_t=(1-\beta_r)*(\beta_0+\beta_{\hat{p}}\hat{p}_{t+1}+\beta_{\hat{y}}\hat{y}_{t-1})+\beta_r r_{t-1}+\beta_s s_{t-1}+\varepsilon_t \qquad (3)$$

where, s is the indicator of financial (banking) stability; is the elasticity of monetary policy reaction to the fragility of financial (banking) sector.

Table 1 shows a summary of the results.

Table 1 Empirical results for the period pursuant to MPM approach

Indicator	Sample							
	Q1 2004 – Q2 2021				Q4 2008 – Q2 2021			
	[1]	*[2]*	*[3]*	*[4]*	*[5]*	*[6]*	*[7]*	*[8]*
Natural rate of interest β_0	1.66	3.42*	3.25*	5.12*	3.80*	2.95*	2.27*	3.42*
Adjustment of key interest rate $\beta_{r_{t-1}}$	0.96*	0.96*	0.94*	0.93***	0.93*	0.94*	0.94*	0.92*
Reaction of interest rate against the expected inflation, one year ahead $\beta_{p_{t+4}}$	2.77*				1.39**			

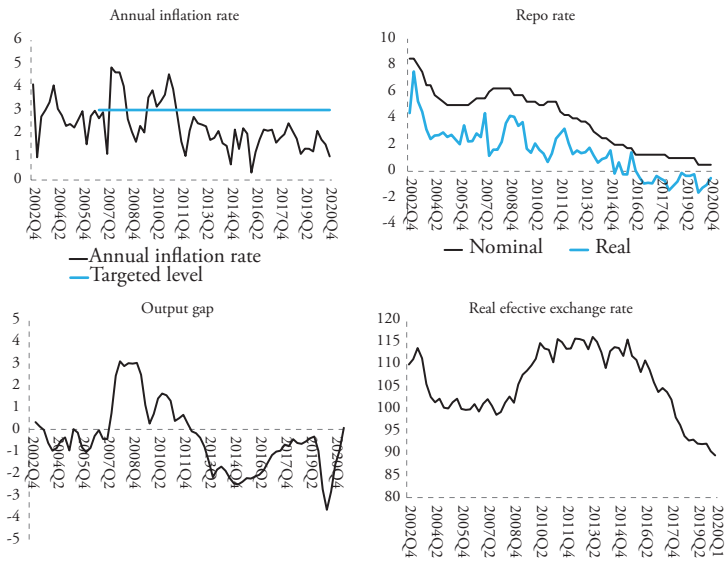
[15] *Floro and Roye (2017) also implement this approach in their work.*

Reaction of interest rate against the expected inflation, after one year, one quarter ahead (forward) $\beta_{p_{t+1}}$		2.52*		2.41*		1.86*		1.59*
Reaction of interest rate against the inflation of the previous quarter (backward) $\beta_{p_{t-1}}$			1.49*				1.29*	
Reaction of interest rate against the output gap $\beta_{y_{t-1}}$	0.46*	0.31	0.58*	0.17	1.10**	0.21	0.21	0.62*
Reaction of interest rate against the financial instability $\beta_{s_{t-1}}$				0.16*				1.0
Adjusted R^2	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99
No. of surveys	67	68	68	70	48	51	51	50
No. of instruments	13	11	13	16	13	11	13	18
SSR	3.4	2.5	2.8	3.1	2.1	1.7	1.5	1.7
Statistics *J*	8.2	6.1	9.5	6.6	7.2	6.8	5.9	9.0
Prob. of Stat. *J*	0.51	0.53	0.39	0.83	0.62	0.45	0.75	0.78
Statistical importance: * p<0.01; ** p<0.05; *** p<0.10; The last raw shows the probability value of statistical test on the availability of instruments. SSR – Sum Squared Regression.								
Source: Author's calculations. Note: GMM approach, which addresses the endogeneity issue of indicators among each other, is employed to carry out the estimations.								

Developments in the rates of: key interest, inflation, and gross domestic products; from 2004 up to 2021 Q2 are taken into account to carry out the estimations on the monetary policy reaction of the Bank of Albania. Also, to see the impact that financial misbalances have in the monetary policy reaction function, we have included developments in this sector, through the assessments of Bank Soundness Index, from Shijaku (2016).

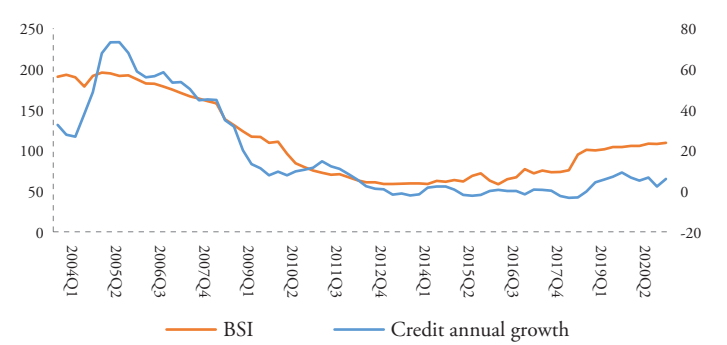
Following, figures depict an overview of the macro-economic situation in Albania, provided through the main indicators included in the reaction function of the monetary policy.

Figure 1 Main macroeconomic indicators



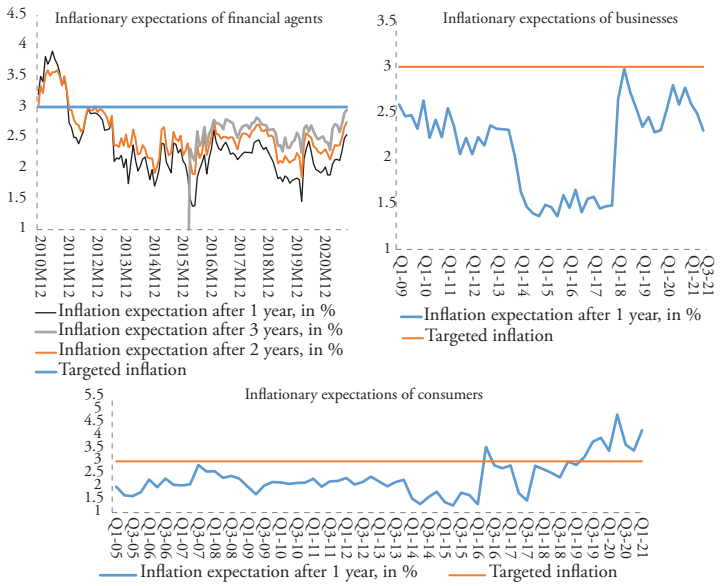
Source: INSTAT and Bank of Albania.

Figure 2 Financial indicators



Source: Bank of Albania.

Figure 3 Inflationary expectations of economic agents



Source: Bank of Albania.

Since the beginning of 2000s, Albania enjoys a high and sustained economic growth, underpinned by a swift and powerful expansion of financial sector, which led to a considerable upsurge of the domestic aggregate demand. Real GDP grew by 6.0%, on average, in 2000-2007, and was mainly driven by the domestic demand and the production of nontradable goods Figure 1). Global financial crisis that hit the entire global economy affected Albania as well, mainly through the second wave effects, which drove to a reduction in both investments and private consumption.

On the other hand, the European debt crisis, the high uncertainty level, and the fall in business and consumer confidence, drove to a drop in the loan demand, decrease of remittances, which on their part lead to a slowdown in the domestic demand, even in the years after the crisis. Since the beginning of the global crisis in 2008, and following, the economic growth has slowed to 2.4%, on average. In the last two years, 2019 and 2020, the Albanian economy has suffered two hard shocks: one from the earthquake in 2019 Q4, and

the second, the creases caused by the Covid-19 pandemic in 2020. In these circumstances, due to the measures taken by the authorities to contain the virus spread, the economy contracted by -3.3% in 2020. This drop was mainly attributable to the negative contribution of the service sector and private consumption.

Data on the overall performance of prices show that in 2002 - 2011, inflation fluctuated at 3%, on average, within the Bank of Albania's target (Figure 1). Nevertheless, there are periods when inflation level is above this level, by 1-2 percentage points. This deviation was mainly driven by the upswing of raw materials prices in international markets. The next period, since 2012, is accompanied by a fall in inflation, to 1.7%, on average, below the central bank's target. Developments in price level reflect the developments in both domestic and external macroeconomic environments. On the other hand, this fall in the overall level of prices is followed by a drop in the expectations of economic agents related to expected inflation (Figure 3).

Developments in the banking sector show that this sector has considerably increased the financial intermediation, mainly after the year 2004, also as a result of the complete privatisation of the banking system and the increased presence of private banks with foreign European capital. Annual rates of total credit growth averaged above 40% till prior to the global financial crisis. After the financial crisis, this dynamic changed, while the credit growth rates slowed considerably down, even though reaching negative levels.

This reduction of lending was driven by the fall in the demand for loans, coupled with the fall in supply mainly to enterprises, mostly affected, but not only, by the high stock of non-performing loans, reaching at 23% in 2013. Credit has been recovered in the course of 2019, and following, mainly supported by the loans in Lek and loans to households. On the other hand, dataset on the policy rate show that the Bank of Albania has reacted to safeguard price stability, which is its main objective.

Thus, in the period when inflation forecast was above the target (Figure 1), the central bank has increased the policy rate, and vice

versa, when the inflection forecast level was below the target. Above data reflect some of indicators, which are taken into consideration in the monetary policy decision-making process. As mentioned above, the latter operates in a complex environment, which is subject to various shocks, from forth supply and demand side.

To see how the Bank of Albania has reacted through the key interest rate, and the importance it has paid on the banking system developments, before and after the global financial crisis, in Table 1 (Box) are presented the results on the monetary policy reaction function, based on different specifications.

Overall, notwithstanding the various specifications, results show that the Bank of Albania has paid special attention to the achievement of its primary objective, price stability. Results show that the Bank of Albania is expected to employ considerably the key interest rate instrument to firstly anchor inflationary pressures towards the target, both before and after the global financial crisis, in compliance with principles on inflation targeting regime. In addition, results confirm the pass through effect of the key interest rate through monetary policy transmission mechanism.

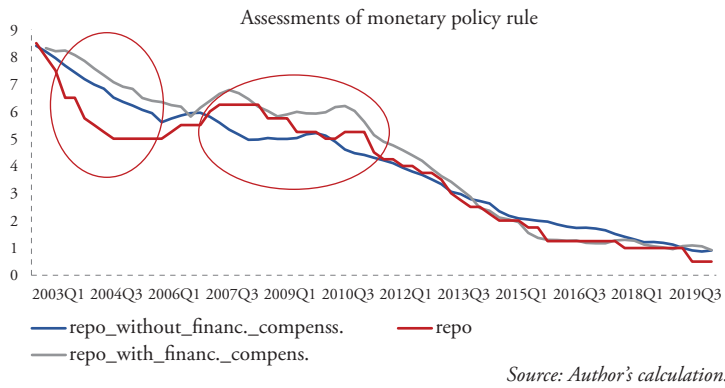
Other results confirm that the Bank of Albania is also particularly attentive to the other macroeconomic and financial indicators. This approach is specifically confirmed in the case of developments related to output gap and banking sector imbalances. Its approach to these indicators is directly and mainly procyclical. In one hand, this implies that the Bank of Albania is expected to raise the key interest rate for any deviation of output level above its potential, and of the increased financial imbalances, with the purpose that later neither jeopardise the banking stability nor price stability objective.

Even though a more moderate link, findings confirm that the pass through of these channels effects to the interest rate trajectory has been increasingly strengthened after the financial crisis, when banking stability has been turned into the second strongest channel, following the inflation rate-related one. This result shows that the monetary policy decision-making in terms of interest rate is closely related to both price level and macroeconomic developments, particularly to

developments in financial markets and banking sector. This means, this sector is expected to play a more significant role in determining the short-term interest rate trajectory and the conduct of monetary policy in the future.

Nevertheless, the size of each indicator is relatively lower than the coefficient related top inflationary pressures. This certifies that the monetary policy reacts to other secondary objective, though the deviation of inflation rate from its target takes its highest attention. This confirms that the anchoring of inflationary expectation remains the main priority of the Bank of Albania. Thus, both the decision-making and the strategy of the Bank of Albania for the implementation of the monetary policy reflect this objective.

Figure 4 Nominal interest rate and estimations by Taylor rule



Source: Author's calculation.

Figure 4 displays the nominal interest rate, rep, and the forecast obtained from the model where the indicator of financial imbalances is included as well, repo_without_financial_compensation and repo_with_financial_compensation. Graphical display visualises what the results in Table 1 show. The interpretation of results should be careful as the interest rate reaction is judged on the historical values of the indicators and not on the foreseen values at the moment when the decision is taken, in order to make the reader more familiar with the monetary policy decision-making.

Before the global financial crisis, it is noted that the Bank of Albania has paid more attention on the deviations of inflation from the target, driving the repo rate has a similar performance with repo_ without_financial_compensation, even lower, showing the priority of inflation target in place. Meanwhile, during the financial crisis, repo rate - by considering also the impacts that developments in financial system have on the financial system for the monetary policy reaction function- mostly pursues repo_with_financial_ compensation. Periods during the financial crisis and following shows an increased attention on the developments in the financial system, but always having as primary ones the developments in the overall level of prices.

Nevertheless, as we mentioned above, developments in key interest rate of monetary policy reflect the reactions against the forecasts on the main indicators - inflation, gross domestic product and financial imbalances - which are set in high uncertainty conditions. On the other hand, the Bank of Albania, since after the banking financial crisis, has strengthened the supervisory and regulatory process coupled with the guidance of the macroprudential policy[16]. The macro-prudential policy is dedicated to: enhancing the systemic risk analysis and assessment framework; establishing the framework for the adoption of the macro-prudential instruments; and expanding capacities to assess the impact of this policy instruments in the case of Albania. These elements are not directly included in the assessment of the monetary policy reaction, but their impact is directly obtained from the indicator of banking soundness.

[16] *The Macro-prudential Policy Strategy of the Bank of Albania was adopted in August 2017. It offers an overall operational framework for the implementation of the macro-prudential policy. This strategy aims to: a) link the ultimate objective of macro-prudential policy with the intermediate objectives and macro-prudential instruments; b) establish a sound framework for the application of macro-prudential instruments, including the indicators to monitor the performance of the systemic risk, and guide decisions related with the application, deactivation or calibration of time-varying macro-prudential instruments; c) explain the decision-making, inter-institutional and public communication processes at the Bank of Albania regarding the macro-prudential policy.*

IV. FINAL REMARKS

Developments that led to the outbreak of the global financial crisis in 2007, followed by the high contraction of global economic activity, re-opened once again the debate on the particular relationship between the monetary policy and financial markets and institutions stability. In one hand, the crisis clearly showed that developments in banking sector are critical for the pass through of monetary policy effects into the real economy. On the other hand, it exhibited that the achievement and the sustained maintenance of price level, pursuit to the inflation targeting regime, should be coordinated in line with the other objectives related to the macroeconomic and financial conditions at home.

As in most banking crises, the global financial crisis showed that when the credit cycle reverses, bank conditions become crucial for the transmission of monetary policy. The experience of other central banks - which indicate that their main attention is focused on the achievement and maintaining of price stability, coupled with other macroeconomic and financial indicators, which also are significant - also supports this observation.

For this purpose, this chapter presents an empirical assessment, based on the standard principles of Taylor rule, in case of small open economies, like Albania, to explore if developments related to financial (banking) stability are important to monetary policy. At the same time, it is analysed if the central bank reacts steadily and in a predictable manner to changes in: inflation, output gap; and other economic anchors.

The results in case of the monetary policy analysis pursuant to the Taylor rule approach prove a deeply clear empirical description on the Bank of Albania's conduct related to its decision-making. Results show that the monetary policy reaction of the Bank of Albania is oriented towards the achievement of its main objective, the price stability. In addition, results show that the attention of the Bank of Albania is also on other objectives, like financial system sustainability, whose vulnerability would impede the achievement of the primary objective in a second moment.

In more concrete terms, empirical results show that the Bank of Albania significantly reacts, by raising the key interest rate in response to expected deviation of inflation, in compliance with the achievement of its primary objective, pursuant to inflation targeting regime principle and vice versa. In addition, assessments show that financial developments are important to the monetary policy reaction, mainly after the global financial crisis period. This affirms that the Bank of Albania significantly reacts to mitigate risks that threat the financial system stability, which in turn jeopardises the main objective to achieve and maintain price stability and the macroeconomic stability.

Also, the obtained results in case of monetary policy analyses are deeply important in the light of the decision-making implications. In this view, the importance of empirical findings addressed in this chapter is significant in two directions.

First, results support the fact that the conduct of the Bank of Albania's monetary policy is rational and are determined by the implementation of principles set forth in a simple and clear rule. These principles provide for more importance to the achievement of the primary objective, without prejudice to the other macroeconomic indicators. This approach remains unchanged, notwithstanding the occurrence of the financial crisis.

Its approach remains the same despite the financial crisis. In one hand, this shows that including the expectations on these indicators in the monetary policy decision-making accounts for a greater share. On the other hand, the strength of empirical results, confirmed both prior and post the financial crisis, affirms that the bank's involvement in order to achieve its goals, is unchanged. This signifies that the central bank remains engaged in achieving its main objective according to the principles of this rule. On one side, the principles of this rule give more weight to achieving its main objective related to the level of inflation. On the other side, they reflect the objective of the Bank to guarantee a sustainable economic growth and a sound financial system.

The implementation of the principles of clear rules is crucial to the central bank for better communicating its monetary policy's objective

in the future, by making its forward guidance easily understandable and expected by the economic agents. On the other hand, Woodford (2003) highlights that this approach provides the greatest contribution in managing the expectations of the private sector, though anchoring private-sector expectations with the central bank's objective, by simultaneously reducing uncertainties in the market.

Enhancing public confidence to the ability of the central bank to achieve this objective - ensured through the strengthening of independence, accountability, confidentiality and transparency - drives to successfully overcome this challenge. A significant element is related to the improvement of communication channels, and the increase of human capital in improving the analytical and research processes against the current and expected phenomena.

Second, and most important, results show that a crucial approach to the Bank of Albania for achieving the main objective is through basing its decision-making on the adjustment of the interest rate, within the remained space through this instrument. Nevertheless, as Bailey, et.al (2020a) suggest, challenges after the global financial crisis, and particularly after the pandemic, imply that the decision makers should be prepared to firmly and swiftly react against unexpected events, by employing all the available instruments, and to broaden the gamma of other alternative instruments.

Also, Albertazzi, et al., (2021), note that there exist a key element for the policy making of the central bank for forward guidance, which is related to the need to better understand crucial factors that booster lending and financial imbalances. Thus, it is important that the modelling of credit cycle includes structural elements together with other elements related to competition, regulation, financial innovation and intermediation from non-bank financial institutions. In this view, the central bank should determine the adequate institutional framework to minimise some undesirable aspects which result from the relationship between price stability and financial stability. It suggests the strengthening of effective supervision and resolute for the fast solution of financial institutions crunches and the inclusion of a broader gamma of macroprudential tools or instruments.

Last, but not less important, it is crucial to take into account the limits related to the approach which was pursued in the analyses taking place in this study. In one hand, principles of Taylor rule do not precisely reflect the other instruments role of untraditional monetary policy, for example, policies related to the balance sheet of banks or those of interventions in the exchange rate. On the other hand, the analysis in this chapter is based on our main assumption that the conduct of the central bank's monetary policy against shocks which are related to its main objective and more broadly, is linear and symmetric.

This implies that the monetary policy reaction is equal to both positive and negative shocks. Also, it is assumed that this reaction remains unchanged, notwithstanding the size of shocks. Thus, the addressing of these issues turns into a priority for the next studies.

Last, another limitation is related to the fact that the analysis focuses on the historical response of the central bank to inflation, output and banking soundness' gap, without taking into account all the elements which relate to the determination of the optimal monetary policy reaction. Thus, these elements should be analysed in other researches.

To conclude, as Smets (2019) states, macroprudential policy is the one that should take care for ensuring financial stability, but the monetary policy should always monitor it (the financial stability) without forgetting the price stability, as the main objective of the central bank in the medium term.

LITERATURE

Albertazzi, U., Barbiero, F., Marques-Ibanez, D., Popov, A., D'Acri, C., and Vlassopoulos, Th. (2020) "Monetary policy and bank stability: the analytical toolbox reviewed", ECB Working Paper Series No. 2377 / February 2020.

Amato, D., and Thomas Laubach. (1999) "The Value of Interest Rate Smoothing: How the Private Sector Helps the Federal Reserve", Economic Review, Vol. 84 (3): pp. 47-64.

Arellano, Manuel, and Stephen, Bond. (1991) "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations", The Review of Economic Studies, Vol. 58 (2), 1991: pp. 277-297.

Arellano, Manuel, and Olympia Bover (1995) "Another Look at the Instrumental Variables Estimation of Error Components Models", Journal of Econometrics, Vol. 68 (1), pp. 29-51.

Bailey, D., Clark, J., Colombelli, A., Corradini, C., De Propris, L., Derudder, B., Fratesi, U., Fritsch,M., Harrison, J., Hatfield, M., Kemeny, T., Kogler, D., Lagendijk, A., Lawton, P., Ortega Argilés, R., and Usai, S. (2020b) "Rethinking regions in turbulent times", Regional Studies, 54(1), pp. 1–4.

Bailey, D., and Tomlinson, P. (2020a) "Covid-19, the economy and the West Midlands' recovery: A regional perspective." In J. Mair (Ed.), "The pandemic; where did we go wrong? A very public inquiry", pp. 154–159.

Ball, L., (1999) "Policy Rules for Open Economies", in John B. Taylor, ed., Monetary Policy Rules: Chicago: University of Chicago Press, pp. 203-46.

Bank of Albania, (2015a) "Monetary Policy Document", January 2015.

Bank of Albania, (2019) "Medium-term development strategy, 2019-2021", Bank of Albania, Specific publications.

Batini, N., and Haldane, A., (1999) "Forward-looking Rules for Monetary Policy", In J.B. Taylor, Monetary Policy Rules, (2001), (pp. 157-192). Chicago: University of Chicago Press.

Batini, N., Harrison, R., and Millard, S.P., (2003) "Monetary Policy rules for an Open Economy", Journal of Economic Dynamics and Control, Vol. 27, pp. 2059-2094.

Bauducco, S., Bulíř, A., dhe Čihák M., (2008) "Taylor Rule under Financial Instability." IMF Working Paper, No 08/18.

Baxa, J., Horváth, R., and Vašíček, B., (2013) "Time-varying monetary-policy rules and financial stress: Does financial instability matter for monetary policy?", Journal of Financial Stability, Vol. 9 April (2013), pp. 117-138.

Bean, C., Paustian, M., Penalver, A., and Taylor, T. (2010) "Monetary policy after the fall. Macroeconomic Challenges: The Decade Ahead", Federal Reserve Bank of Kansas City Annual Economic Policy Symposium Aug. 26 - 28, 2010 in Jackson Hole, Wyo.

Berger, H., and Weber H., (2012) "Money as Indicator for the Natural Rate of Interest", IMF Working Papers 12/6, International Monetary Fund.

Bernanke, B. (2015) "The Taylor Rule: A benchmark for monetary policy?", retrieve from the Brooking Website https://www.brookings.edu/blog/ben-bernanke/2015/04/28/the-taylor-rule-a-benchmark-for-monetary-policy/.

Blejer, I.M., (1998) "Central Banks and Price Stability: Is a Single Objective Enough?", Journal of Applied Economics, Vol. 1(1), November (1998), pp. 105-122.

Borio, C. and Gambacorta, L. (2017) "Monetary Policy and Bank Lending In a Low Interest Rate Environment: Diminishing Effectiveness?", Journal of Macroeconomics, Vol. 54, pp. 217-231.

Borio, C., Gambacorta, L. and Hofmann, B. (2017) "The Influence of Monetary Policy On Bank Profitability", International Finance, Vol. 20(1), pp. 48-63.

Brandao-Marques, L., Gelos, G., Harjes, Th., Sahay, R., and Xue, Y. (2020) "Monetary Policy Transmission in Emerging Markets and Developing Economies", IMF Working Paper WP/20/35.

Brousseau, V., and Detken, C., (2001) "Monetary Policy and Fears of Financial Instability", ECB Working Paper, No. 89, November (2001).

Bulír, A., and Čihák, M., (2008) "Central Bankers' Dilemma When Banks Are Vulnerable: To Tighten or not to Tighten?", International Monetary Fund, Mimeo.

Caputo, Rodrigo. (2009) "External Shocks and Monetary Policy. Does it Pay to

Respond to Exchange Rate Deviations?", Central Bank of Chile Revista de Análisis Económico, Vol. 24, (1), pp. 55-99 (Junio 2009).

Castro, V., (2011) "Can central banks' monetary policy be described by a linear (augmented) Taylor rule or by a nonlinear rule?", Journal of Financial Stability Vol. 7 (2011), pp. 228-246.

Cecchetti, S.G. and Li, L., (2008) "Do Capital Adequacy Requirements Matter For Monetary Policy?", Economic Inquiry, Western Economic Association International, Vol. 46(4), pp. 643-659.

Clarida, R., Gali, J., and Gertler, M., (1998) "Monetary Policy Rules in Practice Some International Evidence", European Economic Review, Vol. 42 (1998), pp. 1033-1067.

Clarida, R., Gali, J., and Gertler, M., (2000) "Monetary Policy Rules and Macroeconomic Stability: Evidence and Some Theory", Quarterly Journal of Economics, Vol. 115(1), pp. 147-180.

Coibion, O., and Gorodnichenko, Y.O., (2012) "Why Are Target Interest Rate Changes So Persistent?", American Economic Journal: Macroeconomics, Vol. 4(4), October (2012).

Curdia, W., and Woodford, M., (2010) "Credit Spreads and Monetary Policy", Journal of Money, Credit and Banking, Vol. 42(1), September 2010, pp. 3-35.

Di Maggio, M., and Kacperczyk, M. (2017) "The Unintended Consequences of the Zero Lower Bound Policy", Journal of Financial Economics, Vol. 123 (1), pp. 59-80.

Dushku, E., and Kota, V., (2011) "A Bayesian Estimation of A Small Structural Model for the Albanian Economy", Bank of Albania Working Paper Series 04(27)2011.

Fuhrer, J., and Tootell, G., (2008) "Eyes on the Prize: How did the FED Respond to the Shock Market?", Journal of Monetary Economics, Vol. 55(4), pp. 796-805.

Gali, J., (2008) "Monetary Policy, Inflation and the Business Cycle: An Introduction to the New Keynesian Framework", Princeton: Princeton University Press.

Gerdesmeier, D., and Roffia, B., (2004) "Taylor Rules for the Euro Area: the

Issues of Real-time Data", Deutsche Bundesbank Discussion Paper, No 37/2004.

Giannoni, M.P., (2002) "Does Model Uncertainty Justify Caution? Robust Optimal Monetary Policy In A Forward-Looking Model", Macroeconomic Dynamics, Vol. 6(01), pp. 111-144.

Hansen, L., (1982) "Large Sample Properties of Generalized Method of Moments Estimators", Econometrica: Journal of the Econometric Society, pp. 1029-1054.

Hau, H. and Lai, S. (2016) "Asset Allocation and Monetary Policy: Evidence from the Eurozone", Journal of Financial Economics, Vol. 120(2), pp. 309-329.

Hetzel, R.L., (2000) "The Taylor Rule: Is It a Useful Guide to Understanding Monetary Policy", Federal Reserve Bank of Richmond, Economic Quarterly, Vol. 86(2), Spring (2000).

Hofmann, B., and Bogdanova, B., (2012) "Taylor rules and monetary policy: a global "Great Deviation"?", BIS Quarterly Review, September 2012.

Leitemo, K., and Söderström, U., (2005) "Simple Monetary Policy Rules and Exchange Rate Uncertainty", Journal of International Money and Finance, Vol. 24(3), April (2005), pp. 481-507.

Loayza, N., and Schmidt-Hebbel, K. (2002) "Monetary policy functions and transmission mechanisms: an overview", Central Bank of Chile, Santiago.

Markov, N., and Nitschka, Th., (2013) "Estimating Taylor Rules for Switzerland: Evidence from 2000 to 2012", Swiss National Bank Working Papers 2013-8.

McCallum, T. B., and Nelson, E., (2000) "Nominal Income Targeting in an Open-Economy Optimising Model", NBER Working Paper No. 6675, June (2000).

Mohanty, M.s., and Klau, M., (2004) "Monetary Policy Rules in Emerging Market Economies: Issues and Evidence", Bank for International Settlements, March (2004).

Orphanides, A., (2001) "Monetary Policy Rules Based on Real-Time Data", The American Economic Review, Volume 91, No. 4 (Sep., 2001), pp. 964-985.

Piegallini, A., and Rodano, G. (2017) "A Simple Explanation of the Taylor Rule", Economic Issues Journal Articles, Economic Issues, Vol. 22(1), pp. 25-35.

Puckelwald, J., (2012) "The Influence of the Macroeconomic Trilemma on Monetary Policy – A Functional Coefficient Approach for Taylor Rule", 16th Conference of the Research Network Macroeconomics and Macroeconomic Policies (FMM).

Roodman, D., (2009) "A Note on the Theme of Too Many Instruments", Oxford Bulletin of Economics and Statistics, Vol. 71(1), pp. 135-158.

Rostagno, M., Altavilla, Ca., Carboni, G., Lemke, W., Motto, R., Guilhem, S.A., and Yiangou, J. (2021) "Monetary Policy in Times of Crisis: A Tale of Two Decades of the European Central Bank", Oxford University Press Oxford, UK, (2021), 448.

Rudebusch, G., and Svensson, L., (1999) "Policy Rules for Inflation Targeting", in John B. Taylor, ed., Monetary Policy Rules: Chicago: University of Chicago Press, pp. 203-46.

Rudebusch, G.D. (2002) "Term Structure Evidence on Interest Rate Smoothing and Monetary Policy Inertia", Journal of Monetary Economies, Vol. 49, pp. 1161-1187.

Taylor, J.B., (1993) "Discretion versus Policy Rules in Practices", Carnegie-Rochester Conference Series on Public Policy, Vol. 39, pp. 195-214.

Taylor, J.B., (1999) "The Robustness and Efficiency of Monetary Policy Rules as Guidelines for Interest Rate Setting by European Central Bank", Journal of Monetary Economics, Vol. 43(3), pp. 655-679.

Taylor, J.B. (2008) "Monetary Policy and the State of the Economy", Testimony before the Committee on Financial Services U.S. House of Representatives February 26, 2008

Taylor, J.B., and Williams, J.C., (2011) "Simple and Robust Rules for Monetary Policy", In Friedman, B., Woodford, M., (eds), Handbook of Monetary Economies, Elsevier, 3B: pp. 829-60.

Teranishi, Y., (2012) "Credit spread and monetary policy", Economics Letters Vol. 114, Issue 1, January 2012, pp. 26-28.

Sauer, S., and Sturn, J.E., (2007) "Using Taylor Rules to Understand European Central Bank Monetary Policy", German Economic Review, Volume 8 (3), August (2007), pp. 375-398.

Silkos, P., and Bohl, M., (2008) "Asset Prices as Indicators of Euro Area Monetary Policy: An Empirical Assessment of their Role on a Taylor Rule", Open Economic Review, Vol. 20(1), pp. 39-59.

Shijaku, G., (2012) "The Role of Money as an Important Pillar for Monetary Policy: the Case of Albania", Forthcoming Bank of Albania Working Paper.

Shijaku, G., (2016) "Banking Stability and its Determinants: A Sensitivity Analysis on Methodological Changes", Bank of Albania, Economic Review 2016 H1.

Shijaku, G., (2018) "Fiscal policy, output and financial stress in the case of developing and emerging European economies: a threshold VAR approach", Bank of Albania Working Paper series 37 (76) 2018.

Svensson, L., (1999) "Inflation Targeting as a Monetary Policy Rule", Journal of Monetary Economics, Vol. 43, June (1999), pp. 607-79.

Van den Heuvel, S. J. (2002) "Does Bank Capital Matter For Monetary Transmission?", Economic Policy Review, Vol. 8 (1), pp. 259-265.

Wang, R., Morley, B., and Ordóñez, J., (2016) "The Taylor Rule, Wealth Effects and the Exchange Rate", Review of International Economics Vol. 24(2), May 2016, pp. 282-301.

Woodford, M., (2001) "The Taylor Rule and Optimal Policy", American Economic Review, No. 91 (2), pp. 232-37.

Woodford, M. (2003) "Interest and Prices. Foundations of a Theory of Monetary Policy", Princeton: Princeton University Press.

Yau, R., (2010) "Estimating Forward-looking Taylor Rule by GMM with Factor Instruments", International Conference on Applied Economics (2010).

APPENDIX

Table 1 Results by unit root test approach (Sample: Q2 2004 – Q4 2015]

Indicator	Augmented Dickey-Fuller					
	Level			First spread		
	Constant	Constant and trend	N/o	Constant	Constant and trend	N/o
	[0.0214]	[0.0009]	[0.0542]	[0.0000]	[0.0000]	[0.0000]
	[0.0004]	[0.0003]	[0.0913]	[0.0000]	[0.0000]	[0.0000]
	[0.0004]	[0.0003]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
	[0.1456]	[0.3865]	[0.0161]	[0.0000]	[0.0000]	[0.0000]
BSI	[0.3834]	[0.7447]	[0.7326]	[0.0000]	[0.0000]	[0.0000]
	Phillips-Perron					
	[0.0212]	[0.0012]	[0.0542]	[0.0000]	[0.0000]	[0.0000]
	[0.0004]	[0.0003]	[0.1949]	[0.0000]	[0.0000]	[0.0000]
	[0.0004]	[0.0003]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
	[0.1277]	[0.3532]	[0.0135]	[0.0000]	[0.0000]	[0.0000]
BSI	[0.4408]	[0.7447]	[0.7447]	[0.0000]	[0.0000]	[0.0000]

Source: Author's calculations.

CHAPTER III: DOES THE BEHAVIOUR OF MONETARY POLICY AFFECT THE BANKS' SOUNDNESS IN ALBANIA?

1. INTRODUCTION

The interaction between monetary policy and developments in markets and financial institutions is not an unknown topic. The link between them has further intensified over the last decade becoming an important priority for policy makers and regulators. This general opinion changed over time also because of the way and the strategy the monetary authorities reacted following the events related to the global financial crisis (at first), and then to the European sovereign debt crisis. It must be acknowledged, however, that despite continued efforts, we are still far from developing a satisfactory response for this issue.

Assuming that monetary policy has at some extent an impact on financial stability, it would be reasonable to expect financial stability concerns to impose particular constraints on monetary policy and to seek an agreement that links their policies and objectives with each other. If the hypothesis is rejected, i.e. no relation is found between financial stability and monetary policy then it means that financial stability does not need to be taken into account when making and implementing monetary policy, and both policies can follow their course to achieve the main objectives without limiting each other.

However, it must be acknowledged that the prevailing opinion on the relationship between them, but also the economic systems, as well as the structures of policies and institutions have changed constantly over time in accordance with the current conditions and developments of the financial system. Therefore, in this paper we will try to explore further this relationship in the case of a small open economy, like Albania. Albania offers a very interesting and important study sample, especially due to the fact that the banking sector acts as the main financial intermediary, accounting for 90% of it, which compared to other European markets is less developed and has a limited number of instruments and agents.

Although financial and banking crises are by no means a new phenomenon, our pre- and post-crisis experience has shown that monetary policy can have significant implications for banks' financial fragility. There are a number of studies that have analysed the banking system as a whole, or at banking level in particular, providing answers on the role of the banking system, its determining factors at the macro and micro level, risk-related issues, provisions, bank profits, etc. [(Sejko, Dushku (2018); Yzeiraj (2015); (Vika (2009); Shijaku and Ceca (2010); Kalluci (2011); Dushku and Kota (2014); Dushku (2016); Shijaku (2017); Vika and Suljoti (2018); Papavangjeli (2020); etc.]. These materials have identified economic activity, exchange rate, interest rates, and characteristics of the banking system as important factors of banking soundness. However, an issue that has not been fully addressed and that still requires a formal empirical response remains the role of monetary policy in the stability of banking soundness. Of course, monetary policy decision-making indirectly affects stability through its effects on interest rates, overall price levels, output levels, etc., but there is still no direct evidence of the effect that monetary policy has on the soundness of banks in the case of Albania.

In this paper we have analysed the effect of monetary policy on the soundness of banks in Albania, especially regarding risk taking by banks, including also specific elements of banks. The results show a significant impact of monetary policy on banks' balance sheets, both before and after the global financial crisis.

The chapter is organized as it follows. We first present a summary of the global experience in the relationship between monetary policy and banking soundness, followed by a general description of the main characteristics of the banking system in Albania. Then we present the philosophy of the model as a whole, continuing with the discussion on the results and finally a summary of the findings and the implications they have in the case of Albania.

2. THE LINK BETWEEN MONETARY POLICY AND FINANCIAL STABILITY-FROM THE PERSPECTIVE OF GLOBAL EXPERIENCE

Although the literature on the impact of monetary policy on financial stability dates back to before the global financial crisis, this topic received increased attention especially after this crisis, not only to understand the role of specific factors in the financial soundness of banks in particular or the system as a whole, but also to understand more about the role of monetary policy in it.

A review of the literature on the effects of monetary policy on financial stability provides a comprehensive description of the monetary policy transmission mechanism. The theoretical and empirical literature is mainly divided in two directions, between those who support the view that monetary policy affects the financial stability of banks and those who are against it. The current debate among experts on this issue can be summarized in two different positions.

The "classical" doctrine and its supporters think that most macroeconomic crises, including the global financial crisis, are the result of a misguided monetary policy, which through short-term interest rates at low levels for a long time encourages banks, businesses and households to take more risk. This is because when interest rates are low, credit and debt burden seem affordable. However, the setting of interest rates depends on macroeconomic and financial conditions; as a result they may increase in the future. This requires borrowers to be far-sighted and to consider the effects of future high interest rates, the exchange rate fluctuations, etc., as

well as the effects that may increase the debt burden in circumstances where businesses and households'income remain unchanged. These calculations are more difficult to be made when interest rates stay low for a long time, affecting their expectations as well. It is precisely this behaviour of banks, businesses and individuals that has been the focus of analysis and economic studies, as part of the monetary transmission mechanism, called the "risk-taking channel". Part of this view is also shared by a number of authors, who think that banks' exposure to monetary policy can be high, if there are large maturity mismatches between long-term nominal assets (such as mortgage loans) and short-term nominal liabilities (such as deposits), which is also reflected in the interest rate gap. This argument is not supported by all economists, who although do not rule out the impact of monetary policy on achieving and maintaining financial stability, and do not consider the financial crisis as a direct result of low expansionary monetary policy rates. Supporters of this argument consider that the impacts / fluctuations of banks' financial soundness driven by monetary policy actions are of minor importance. According to them, the main reason is related to the modernization of the operational framework of monetary policy according to the principles of the inflation targeting regime and the free implementation of the exchange rate, but also financial innovation.

The practices of central banks, according to them, show that these elements offer / guarantee at the same time the improvement of monetary and credit conditions. They are also essential in distributing risks more efficiently, becoming the best contribution the central bank can make in supporting sustainable and long-term economic growth, increasing well-being and maintaining financial and macroeconomic stability of the country. These authors believe that the current model of monetary policy design and implementation and the innovation of instruments in financial markets ensure that the price and credit risk are accurately assessed by financial markets. In other words, when interest rates are low for a long time, the financial market assesses, reflects and correctly distributes all risks through its instruments. Consequently, monetary policy and financial stability are not harmed as long as the market has correctly assessed the risk of monetary policy.

However, there is another group of authors, according to whom the financial crisis was particularly and directly the result of the failure of policies and other policy-making instruments related specifically to the identification / measurement of financial risks, as well as of the reasons that drove their accumulation. For this reason, they assume that monetary policy decision-making concerns and financial stability should be kept separate and as such, different instruments should be used for different objectives.

In this sense, there is no unanimous stance on this important topic. In the absence of a dominant view shared by all economists, the interaction that exists in the relationship between the performance of the financial sector (banking) and monetary policy remains a hypothesis to be proven. The scientific confirmation (rejection) of this hypothesis also has important implications for the central bank and its policies, especially for the monetary transmission mechanism, which is quite essential to better understand the magnitude and speed of intervening in cases of crisis.

Altunbaş, et al., (2014) and Brandao-Marques, et al., (2020) claimed that in an environment with low interest rates, caused banks to take more risk, which in terms of high liquidity was not seen as a concern for banking soundness mainly for two main reasons. First, most of the central banks modernized their monetary policy framework, aiming to maintain short-term interest rates around the key interest rate, as a key operational objective, and in line with the inflation targeting regime and the implementation of the free exchange rate regime. This provided an ongoing support for improving monetary and credit conditions. Second, financial innovation, for the most part, further consolidated the soundness of the financial system, resulting in a more efficient distribution of risks. In this context, the financial health implications of banks driven by monetary policy actions were also considered to be of minor importance. However, it is estimated that the limited evidence of the role of monetary policy transmission has come as a result of underdeveloped financial markets, which is a problem for developing countries [Mishra and Montiel (2013)], as well as the lack of data or methodological approach [Berger and Bouwman (2013)].

However, Albertazzi, et al., (2020), confirm that before the global financial crisis, with a few exceptions, most studies generally did not support the existence of spiral effects between monetary policy and financial stability. But the global financial crisis showed that when the credit cycle is reversed, banking conditions become crucial for the transmission of monetary policy, despite inflation being in equilibrium, highlighting the fact that price stability is not a sufficient condition for financial stability.

Di Tella and Kurlat (2017) suggest that the financial (banking) system is exposed to monetary policy movements, but the extent of this impact depends on the structure and quality of the portfolio balance sheet of banks' assets and liabilities. However, one of the concerns of decision makers on the effects of monetary policy is related to the impact it has on financial health as a whole. This is because, as stated by Mester (2021), maintaining low interest rates for a long time, in order to achieve the objective of price stability, may lead to an increase in financial imbalances. This is because low interest rates for a long time may encourage banks to take more risks [Paligorova and Santos (2017)], thus undermining the country's financial stability in the future. There are several ways banks can change their behaviour in the context of an easing monetary policy. First, according to Adrian and Shin (2009), low interest rates can influence banks' behaviour to artificially overestimate the price of real estate or other guarantees related to bank assets, and consequently the income, and cash flows, which directly determine how banks measure excess risk. Second, as acknowledged by various authors [Rajan (2005); Akerlof and Shiller (2009)], low returns on investments, such as government securities (risk-free), may increase banks' incentives to take more risk in order to achieve objectives related to the need to had higher returns. In this respect, the taking of the large risk is realized quickly through the granting of loans, which, although they enable higher returns, are qualitatively risky and promote the exposure of the balance to non-performing loans, and then the deterioration of banking soundness, to the point of bank bankruptcy. This is also due to the fact that as pointed out by many other authors such as Jimenez, et al., (2007); Dell'Ariccia, et al., (2008); Dell'Ariccia and Marquez (2009); Peydro and Maddaloni (2011), if low short-term interest rates narrow the space of selection in the credit markets, then the incentive for banks

to guarantee their lending standards falls, prompting banks to lend more to borrowers with bad credit history.

The financial system in Albania is relatively new, where banks constitute the main part of it and financial intermediation as a whole. This has made banks and related phenomena to have been a significant part of numerous analyses and research studies of the Bank of Albania. In general, studies on the banking market in Albania can be grouped into two groups. The first group of studies includes those studies which are based mainly on the aggregate level that analyse the role of financial intermediation for the economic and financial development of the country, the determinants of credit risk, banks' profit margin, etc.[1].

While the second group of studies is mainly focused on the analysis of indicators at the banking level for measuring the elements of the financial system, and particularly the banking soundness or risk. In this sense, some papers have assessed how the individual risk of banks measured by various indicators such as Z-score, non-performing loan ratio or loan loss provision ratio, etc., are affected by both macroeconomic factors and also by the specific characteristics of individual banks[2]. There are other papers that rely on synthetic composite alternative indicators, which are particularly related to measuring and monitoring the stability and health of the financial and banking sectors[3], which serve to compare banks with each other.

Materials analysing the impact of monetary policy on banks' risk or credit supply have shown that the monetary policy interest rate, mainly before the period of the global financial crisis, had a modest impact on credit risk [Shijaku, Ceca (2010) Dushku, City (2014)]. While based at bank level, the results show that small banks are less sensitive to the monetary policy stance than larger banks.

---

[1] *Sejko and Dushku (2018) Dushku (2016); and Dushku and Frashëri (2018); Vika (2009), and Vika and Suljoti (2018), Shijaku (2017a); Shijaku (2017b); Shijaku (2018b); Shijaku (2019); and Shijaku (2020)]. Shijaku (2020) further expands the information used to measure the financial stability (health/soundness) of banks, including a range of information related to the quality of bank administration. In this case, the indicator is known as the CAMELS indicator.*

[2] *These indicators have been used in empirical analyses in the case of Albania by Dushku (2016); and Dushku and Frashëri (2018).*

[3] *These indicators have been used in empirical analyses in the case of Albania by Kote and Saqe (2013); Saqe, et al. (2015); Bode (2016); and Shijaku (2016a); and Shijaku (2018a).*

Meanwhile, banks with higher liquidity seem to be more protected against changes in monetary policy, in line with the theory on the bank credit channel [Vika (2009), and Vika and Suljoti (2018)].

However, despite the existing empirical literature, there is no complete evidence regarding the direct effect and impact that monetary policy has on the soundness of banks in the case of a small open emerging economy such as Albania. Therefore, bringing to attention the importance of this issue from the central bank point of view, we have tried to answer this issue through the nature of empirical analysis adapted with the features of the Albanian economy. More specifically, through the use of detailed banking data we have seen how the basic monetary policy rate in Albania interacts with the banking health indicator of banks built by Shijaku (2016), for the period 2004-2020.

3. THE EVOLUTION OF THE ALBANIAN BANKING SECTOR DURING THE LAST TWO DECADES

If we take a look at the evolution of the financial system in Albania, we see that it is relatively new, the beginnings of which, although started after the decentralization of the economy in the early 1990s, has given the greatest contribution to the economy in the mid-2000s. This period corresponds to the privatization of state-owned banks, as well as the entry into the market of other banks with foreign capital, mainly European one, which aimed to expand their financial operations in potentially new and more profitable markets, such as Albania. The presence of banks with Albanian private capital also increased, causing the number of banks in Albania to increase from 10 in 1998 to 12 at the end of 2000. However, it is estimated that the contribution of the banking system became more crucial mainly in 2004, which corresponds to the period of full privatization of banks in Albania and the significant increase in financial intermediation.

We have seen the evolution of the banking system in this paper and consequently the impact of monetary policy in two periods,

the period before and after the global financial crisis, given that the financial crisis brought changes in the behaviour and reaction of almost all economic agents in market.

Thus, the first phase, 2004-2008, mainly corresponds to the period of further development of the banking sector. The introduction of mainly foreign banks in the market led to an increase in financial intermediation in the country, accompanied by an increase in both deposits and loans, by 15.7% and 50.3%, respectively. Deposits accounted for 61% of GDP in 2008, from about 35% at the beginning of 2004, where about 80% of them consisted of household deposits. The increase in liabilities on the one hand was accompanied by the increase in liabilities on the other hand, where the ratio of total assets to GDP and the ratio of bank loans to GDP recorded 86% and 37%, respectively, at the end of 2008. The majority of the loan was business loans granted mainly in euro. On the other hand, the data for this period show that the banking sector has been sound in terms of the level of capital adequacy, the level of liquidity and profit rates. The presence of foreign and Albanian banks led to an increase in the range of financial products and services, which influenced the increase of financial inclusion in the country, which was almost negligible in the early 2000s. Monetary policy in this period, in line with macroeconomic developments in the country, has been tight, causing the monetary policy interest rate to increase from 5.25% in November 2004, to 6.25% at the end of 2008.

The global financial crisis, which directly affected developed countries, also affected Albania, mainly as a result of the second round effects. Thus the first and direct impact of the global financial crisis came through the depreciation of the domestic currency against the euro, causing damage to the solvency of borrowers who had taken out loans in euros. On the other hand, the decrease in aggregate foreign demand led to a decrease in our exports, affecting the decrease in other indicators related to it. Also, the debt crisis in the EU (2010-2012), had an increased impact on curbing lending to the economy as a result of measures taken by European banks against SEE countries, affecting a lower level of GDP and of employment. The final result of all indicators appeared in almost the halving of economic activity, measured by the real rate of gross domestic product

reaching 3%, from 6% before the crisis. On the other hand, inflation fell significantly below the target aimed by the Bank of Albania. The spiral effects from the real sector appeared in the banking sector, which in turn continued to perform worse, leading to an increase in the level of non-performing loans and a stalemate in lending to the economy. Thus, the level of non-performing loans reached the maximum level of about 22.8% at the end of 2013, from 6.6% at the end of 2008. This was accompanied by a decline in shareholder capital and increased spending on reserve funds to cover losses from non-performing loans (provisions), which made the banking sector more rigid in lending and more cautious in handling the existing portfolio. The increase in provisions affected banks' profitability ratios, which were reflected in lower rates of both the rate of return on assets and share capital.

The Bank of Albania undertook an easing monetary policy by lowering the key interest rate, since 2011 onwards, from 6.5, to 0.5% at the end of 2021. In addition to monetary policy, the Bank of Albania has undertaken other policies that were mainly related to financial stability, which became the topic of discussions on the policies pursued by central banks around the world. These policies aimed at strengthening financial supervision on the one hand, but also policies that addressed financial stability as whole, called macro prudential policies. Demands in terms of capital and liquidity were also further strengthened, bringing the level of banks' capitalization and liquidity in line with these criteria. Thus at the end of 2021, the level of capital adequacy was 17.4%, and the level of liquidity to the bank's assets was 31.2%.

Despite all the measures taken, the level of non-performing loans continued to remain a scourge for the banking system, as because as mentioned above almost ¼ of loans turned out to be non-performing ones. On the other hand, the process of liquidation of collateral was slow, causing banks to have non-performing loans on their balance sheets, which forced them to increase capital provisions, and they had no room to grant new loans, affecting also in a lower economic development. This drove the Bank of Albania, in cooperation with other institutions, in 2015 to undertake a comprehensive strategy to resolve this issue, aimed at: improving the legal environment, more

specifically the review of the law on bankruptcy and restructuring the functioning of private bailiffs: improving the regulatory environment (thanks to stricter standards for lending, set for banks; strengthening internal risk requirements; introducing regulation for out-of-court solutions), as well as improving the infrastructure support of credit through of an improved credit registry.

The implementation of this strategy brought the expected effects on the clearing of banks' balance sheets from non-performing loans, causing their level to be halved within the first two years of its implementation (at the end of 2019, this indicator was at 8.3 % and 7.3% at the end of 2020). This indicates for an improvement in the quality of bank lending and an increase in the banking system's ability to cover capital losses that may arise from possible negative shocks in the future. In addition to the non-performing loans ratios, profitability ratios also improved, which although lower than before the financial crisis, still remain at good and rising levels to provide capital support. Values at the end of 2020 are 1.5% for RoAA and 14.9% for RoAE, compared to 0.07% and 0.76% at the end of 2011. Also, the period from 2017 has been accompanied by structural changes related to the consolidation of the banking system, through the absorption of small banks from larger ones, bank expansions through the acquisition of other operators in the market, the transition of less active banks to groups of more active financial investors, etc. This led to a reduction in the number of banks at the end of 2020, by about 25%, bringing their number to only 12, of which 4 are with domestic capital. Lending at the end of 2020, stood at 47.2%, where consumer loans and loans in lek are the main contributors to bank financial intermediation.

4. THE LINK BETWEEN BANKS AND MONETARY POLICY IN ALBANIA

Since the objective of this book is to be as understandable as possible to a wide range of readers, the presentation of the econometric model as well as the evaluation method are described superficially, to give at most a general intuition on the indicators used for assessing the correlation between monetary policies and banking stability

in Albania. We must first say that the model used, the evaluation methodology, as well as the used indicators have an important role in the economic interpretation of the results, statistical accuracy or correctness, as well as in the conclusions and suggestions derived from this analysis. However, for a broader discussion of the methodology used, as well as the statistical correctness of the model, readers can refer to the textbooks or discussion papers of the Bank of Albania.

Thus, to answer the question raised at the beginning of this chapter, the applied literature tries to assess whether the main indicator of monetary policy has a statistically significant impact on the financial stability of banks in Albania. Also, if it does have an impact, it evaluates the extent to which this impact appears to be, i.e. how important is it and consequently whether it should be taken into account in monetary policy decision-making. To perform the empirical analysis, it is necessary to first identify an appropriate indicator and representative of the soundness of banks, the inclusion of specific banking indicators that determine the behaviour of banks, as well as finding a suitable model in line with the characteristics of the Albanian economy. In our model we have selected a series of indicators, which are widely used in the empirical literature and which as can be understood from the explanation of the Albanian banking system above are appropriate for our case.

The model chosen in our case is based on some research [for more refer to the studies of Cole and White (2012); Madadaloni and Peydro (2013); Altunbas, et al., (2014); Betz, et al., (2014); and Black, et al., (2016)] and aims to explain the health indicator of banks through a number of macro and microeconomic indicators, but more specifically, the assessment of the interaction of monetary policy behaviour, measured by the base rate of interest, in the banking health indicator. Consequently, our model is specified as the following:

$$BSI_{i,t}=\alpha+\beta_1 * Makroekonomik_{i,t}'+\beta_2 * Repo_{i,t}'+\beta_3 * Specifik\_B_{i,t}'+\varepsilon_{i,t}$$

where, $BSI_{i,t}$ represents the banking health indicator, which is estimated for each bank for each quarterly period and represents the health of the i bank at t time where $i = 1, \ldots, N$ (corresponding

to the number of banks in the banking system) and $t = 1, \ldots, T$, of the quarters during the period under consideration. While $Makroekonomik_{i,t}$ includes some macroeconomic indicators that aim to explain the performance of banking soundness, $Repo_{i,t}$ captures the transmission effects of the change in the monetary policy rate in Albania and $Specifik\_B_{i,t}$ includes some specific banking indicators that aim to explain the banking health behaviour for each of the banks. α is a constant β_1 are parameters arising from the model estimation. Finally $\varepsilon_{i,t}$ represents the error rate that measures the deviation of the indicator estimated by the model from its observed value for each period. This error is assumed to be of the same (identical) and independent distribution, with median 0 and variance σ_u^2 $A=\pi r^2$. The lack of these characteristics indicates that the estimated model is problematic and that the results cannot be accepted and analysed with sufficient statistical reliability.

In defining the model described above, special attention is paid to the assessment of the banking soundness indicator for each bank. Thus, if other indicators are measured or calculated individually as part of the monetary and financial statistics of the Bank of Albania, or as part of the national accounts statistics, such as the economic growth indicator, the banking soundness indicator should include and represent all elements / dimensions of banking activity that are simultaneously determinant of the financial stability of each bank. A good indicator for this purpose is the banking soundness indicator (BSI), calculated by Shijaku (2016), as the average of some indicators that measure the level of capital adequacy, asset quality, profits, liquidity and market risk sensitivity. For more on the methodology, its calculation and the method of weighing the sub-indicators you can refer to the studies of Shijaku (2016, 2017).

The database for assessing the correlation between monetary policy and financial stability is obtained from the Bank of Albania and the Institute of Statistics. It summarizes quarterly data for the period 2004-2021 for each of the 16[4] banks in the system, providing a total of 1,058 observations.

[4] *Our panel of banks is not balanced, more precisely there are 16 banks until 2016, then we have 14 banks.*

The estimation of the econometric model was done using the Generalized Method of Moments (GMM) by Arellano and Bond (1991), and Arellano and Bover (1995). The results of the assessment are summarized in Table 1[5], and show the correlation between monetary policy and the stability of banks before and after the global financial crisis, to complete the existing literature with a comprehensive assessment of banking soundness, but also to provide new evidence regarding the impact of monetary policy mainly after the global financial crisis.

Related to the empirical analysis, we must say that the statistical indicators calculated for the significance of the model show that the evaluation is good and without obvious issues, which means that the results can be interpreted with acceptable reliability. Overall, the obtained results confirm that the transmission of the effects caused by the change in the monetary policy rate is important for the financial soundness (stability) of banks. This result confirms that the transmission of monetary policy effects is closely related to developments in banks' financial balance sheets. Specifically, the estimated parameter for the monetary policy effect is statistically significant and different from zero (see it in Table 1, second row, column 1). This result means that changing the interest rate by 1 unit would cause a change/shock by 0.07 units in the banking soundness indicator, confirming that the transmission of monetary policy effects is closely related to developments in banks' financial balance sheets. In other words, this means that the conduct of monetary policy in the future is expected to play a significant role in determining the financial soundness (stability) of banks.

In more detail, the results in Table 1, column 1, show the correlation between monetary policy and financial soundness of banks, estimated for the whole period (2003 Q3 -2020 Q4). As the period in question includes the global financial crisis, column 2 represents the results after this period, to measure the effect of monetary policy after the global financial crisis.

The results for different periods show that there is a significant correlation between the monetary policy interest rate and the financial

[5] *In Box 1 there is a more detailed explanation for the reader on the specific banking and macroeconomic indicators used for the econometric model.*

soundness of banks. The direction of transmission of the effects of monetary policy throughout the period and after the global financial crisis has not changed over time. Initially, the results show that the relationship between changes in monetary policy and financial soundness of banks is significant and negative. This result shows that the increase in the monetary policy interest rate negatively affects the soundness of banks, mainly through the impact that the interest rate has on the solvency of individuals, in regard to non-performing loans, the provision of loan losses, profit etc. This result has been observed both throughout the period and after the global financial crisis. Following the financial crisis, the bank's soundness response rate to monetary policy is lower, indicating an increased monetary policy's focus on bank stability.

Other results confirm that the financial soundness (stability) of banks reacts positively to developments related to macroeconomic conditions, i.e. an improvement in macroeconomic conditions improves the soundness of banks, which are important for increasing solvency and reducing credit risk, which is expected to play an important role for the soundness of banks in the future. Regarding the developments in the exchange rate, the results show a negative, but not significant relationship between the depreciation of the Lek against the Euro and banking soundness.

In terms of specific indicators, for the whole period, a negative and statistically significant relationship between of the bank and its soundness is estimated, which shows that banks that have been more efficient in generating revenue, have contributed to an increase of their soundness. The competition indicator has a positive and statistically significant impact, on the soundness of the bank which tells that the increase of competition is accompanied by an increase in the level of the bank's soundness. While for the whole period, the indicator of, expressed as the ratio of share capital to total assets, shows that the increase in bank capitalization, increases financial soundness This indicator has given the most significant impact mainly after the global financial crisis, where better capitalization of banks translates into a better response to unexpected or expected negative shocks, as well as an improvement of their financial health as a whole.

Box 1: Empirical model and indicators used to assess the correlation between financial health and monetary policy

To assess the correlation between the financial soundness of banks and the monetary policy rate, as mentioned above, we have included macroeconomic indicators, as well as specific indicators of the banks themselves. In detail, the empirical model is written as the following:

$$BSI_{i,t}=\alpha+\beta_1*PBB_t'+\beta_2*EX_t'+\beta_3*Repo_t' +\beta_4*Eficienca_{i,t}'+\beta_5*Leva\_financiare_{i,t}' +\beta_5*Boone\_ind_{i,t}'+\varepsilon_{i,t} \quad (1)$$

Thus, among the macroeconomic indicators, we have included, GDP, the real annual growth rate of gross domestic product. While EX, the rate of change of the real exchange rate, of the lek against the euro, where based on the high level of euroization of the Albanian economy it is reasonable to expect the exchange rate channel to play an important role in health developments of banks, both in terms of assets and liabilities. REPO represents the interest rate for repurchase agreements with a seven-day maturity, applied in the regular weekly auctions of the Bank of Albania and it is the key rate used for the transmission of monetary policy signals, included in the model in annual difference.

Regarding the three specific characteristics of the bank that may affect its soundness, we have included Efficiency, Financial Leverage, as well as the indicator, which measures the level of competition of each bank: The first indicator, calculated as the ratio of the total cost of the bank to the total income of the bank, measures the level of profitability of the bank, in terms of its ability to generate income. More efficient banks are perceived as less risky banks and as a result have a higher capacity to provide more funds in the market. , measured as the ratio of share capital to total assets, serves to measure the level of capitalization of banks, which shows that the more capitalized a bank is, the more sound it is. While the third indicator, measures the level of competition in the banking system based on the elasticity of profits to marginal costs, based on each bank. Theoretically the impact of competition on banking soundness can be positive or negative based on the confirmation of the 'competition-fragility view' [Marcus (1984) and Keeley (1990), Allen and Gale (2000, 2004)] or the 'competition-stability view' of Boyd and De Nicolò, (2005). Demirguc-Kunt and Huizinga (2010) have shown that during the financial crisis, the characteristics of the bank balance sheet are important drivers of the bank's performance and soundness, therefore their inclusion is important for assessing financial health.

Table1: Empirical analysis results

Dependent indicator, bank soundness: $BSI_{i,t}$	Coefficients values for the entire period 2003Q3-2021Q1	Coefficients values for the period (after the global financial crisis) 2008Q4-2021Q1
Impact of GDP	0.99***	0.685
	(0.024)	(0.263)
Impact of the monetary policy change rate, *Repo*	-0.07***	-0.067***
	(0.000)	(0.001)
The impact of the exchange rate change rate, *EX*		
	-0.03	-0.14
	(0.932)	(0.645)
Impact of bank efficiency rate, *Eficienca*	-0.09***	-0.08
	(0.012)	(0.583)
Impact of financial leverage change rate, *Leva_financiare*	0.051	0.61***
	(0.811)	(0.011)
Impact of change of competition rate, *Boone_ind*	0.32 ***	0.40***
	(0.000)	(0.000)
Instruments' order	16	16
Statistics *J*	7.879	11.440
Statistics Probability *J*	0.64	0.324
Probability of AR(1)	0.000	0.002
Probability of AR(2)	0.079	0.139

*Note: level of statistical significance ***, **, * for α, 1%; 5%; and 10%.*

5. FINAL REMARKS

Discussions on the causes and serious consequences of the financial imbalances that occurred both during the global financial crisis of 2007, but also those caused by the pandemic crisis of COVID-19, have raised new questions about the various issues and challenges that have been at the centre of attention of monetary policy decision-making. One of the main lessons learned from the global financial crisis is that financial stability is quite important for monetary policy decision-making, but without a doubt monetary policy plays a vital role to financial stability. The arguments for this influence are simple and straightforward. Monetary policy can affect the stability of the financial system through the profitability channel, according to

which the volatility of monetary policy rates can cause profitability fluctuations in the same direction as the interest rate and hence the bank's profitability and capitalization. At the same time, fluctuations in the monetary policy rate have a direct impact on: income; debt burden; and on the ability of households and the private sector to repay it, thus affecting credit risk and thus the stability of the banking system. Monetary policy also directly affects many other nominal and real indicators, which have an impact on the quality / risk of assets and the structure of liabilities of the banking system and its stability. So in the theoretical concept, monetary policy has a direct and indirect impact on the stability of the banking system. But the theoretical description alone cannot provide an accurate and complete answer to determine the existence of a dominant channel of transmission and assess the concrete effect of monetary policy on financial stability. Empirical study is therefore needed to better assess and understand the effects of monetary policy on system stability.

The main results of this study are consistent with the evidence highlighting some crucial policy implications for the decision-making process. To be more specific, the results presented above for the case of the Albanian economy provide clear evidence supporting the view of an important relationship between monetary policy and the financial soundness of banks. On the other hand, these results show that monetary policy decision-making affects the financial stability of banks. These empirical results do not exclude the case that optimal monetary policy decision-making can cause a deterioration of the stability of the banking system by placing policies sometimes against each other, and other times both policies go in the same direction and reinforce each other. This depends on the dominant problems at the time of decision-making, where in the history of economic events of the last 20 years such phenomena are identified. In the following chapters we will make a more complete and illustrated explanation of this phenomena.

The results presented by the empirical study imply that monetary policy decision-making should take into account its potential implications for the stability of the financial system. Consequently, it is necessary that in cases when these effects are assessed to be negative for the stability of banks, monetary policy decision-making should be

enriched or accompanied by macro and micro prudential measures to ease the "burden" of monetary policy decision-making on the balance sheet of banks, to enable the coordination of policy-making and the resolution of "conflicts" caused between the objectives of price and monetary stability. In conclusion, the recommendation for the Bank of Albania is that in any case the monetary policy decision-making ought to consider the potential negative effects on the financial stability of the system and to coordinate and supplement the decision-making with the necessary macro and micro-prudential measures.

However, the analysis of the empirical results so far, including the findings in the case of the Albanian banking system, is of great importance for future policy implications. First, the relationship between monetary policy and banking stability may change over time. This may happen due to structural changes related to the banking sector consolidation process, but also as a result of different conditions and strategies followed by central banks. Second, central banks may change their monetary policies to reduce financial imbalances if they become significant, perhaps even in a non-linear manner. This means that these phenomena need to be constantly analysed, as this will make it easier to identify and design appropriate policies to avoid related issues. It is therefore important that the monetary policy strategy is not rigid, but is adapted and revised based on research-based analysis to take into consideration expected changes in the future.

Finally, although this material examines the relationship between monetary policy and banking soundness, we have not taken into consideration a number of elements related to the banks' supervisory process, their individual behaviour, which are adjusted to minimize the increased risks and uncertainties in the future.

LITERATURE:

Albertazzi, U., Barbiero, F., Marques-Ibanez, D., Popov, A., D'Acri, C., and Vlassopoulos, Th. (2020) "Monetary policy and bank stability: the analytical toolbox reviewed", ECB Working Paper Series No. 2377 / February 2020.

Adrian T. and Shin H.S. (2009) "Money, Liquidity, and Monetary Policy", American Economic Review, Vol. 99(2), 600-605.

Akerlof, G. and Shiller, R. (2009) "Animal spirits: How human psychology drives the economy and why it matters for global capitalism", Princeton University Press.

Altunbaş, Y., Gambacorta, L. and Marques-Ibanez (2014), "Does Monetary Policy Affect Bank Risk?", International Journal of Central Banking, Vol. 10(1), 95-136.

Anderson, Theodore W., and Cheng Hsiao. (1981). "Estimation of Dynamic Models with Error Components", Journal of American Statistical Association, Volume 76 (375), 1981: 598-606.

Arellano, Manuel, and Stephen Bond (1991) "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations", The Review of Economic Studies, 58 (2), 277-297.

Arellano, M., and Bover, O., (1995). "Another Look at the Instrumental Variables Estimation of Error Components Models", Journal of Econometrics, Vol. 68 (1), (Jul. 1995), 29-51.

Bank of Albania, (2015). "Monetary Policy Document." Bank of Albania. https://www.bankofalbania.org/web/Monetary_Policy_Document_7190_2.php?kc=0,2,9,0,0.

Baxa, J., Horváth, R., and Vašíček, B., (2013) "Time-varying monetary-policy rules and financial stress: Does financial instability matter for monetary policy?", Journal of Financial Stability, Vol. 9, April (2013), 117-138.

Berger, Allen N., and Christa H.S. Bouwman. (2013) "How Does Capital Affect Bank Performance During Financial Crises?", Journal of Financial Economics, Volume 19, 2013: 146-176.

Brandao-Marques, L., Gelos, G., Harjes, Th., Sahay, R., and Xue, Y. (2020) "Monetary Policy Transmission in Emerging Markets and Developing Economies", IMF Working Paper WP/20/35.

Dell'Ariccia, Giovanni, Deniz Igan, and Luc Laeven. (2008) "Credit Booms and Lending Standards: Evidence from the Subprime Mortgage Market", IMF Working Paper, WP/08/106 IMF, 2008.

Dell'Ariccia, G., and Marquez, R. (2009) "Lending booms and lending standards", Journal of Finance, Vol. 61, 2511 -2546.

Di Tella, Sebastia, and Pablo Kurlat. (2017) "Why are banks exposed to monetary policy?", NBER Working Paper 24076.

Dushku, Elona. (2016). "Some Empirical Evidence of Loan Loss Provisions for Albanian Banks", Journal of Central Banking and Practice, Vol. 2, pp. 157-173.

Gros, Daniel. (2018) "Financial Stability Implications of Increasing Interest Rates", CEPS Policy Insights No 2018/10, September 2018.

Jimenez, G., Saurina, J., Ongena, S., and Peydro, J. (2007) "Hazardous times for monetary policy: What do twenty-three million bank loans say about the effects of monetary policy on credit risk-taking?", CentER Discussion Paper Series 75.

Kota, Vasilika, and Saqe, Arisa (2013) "A financial Systemic Stress Index for Albania", Bank of Albania, Research paper 03(62) 2013.

Maddaloni, Angela, and Jose-Luis Peydro, 2013. "Monetary Policy, Macroprudential Policy, and Banking Stability: Evidence from the Euro Area." International Journal of Central Banking, International Journal of Central Banking, Vol. 9(1), pages 121-169, March.

Mester, J. L. (2021) "Financial Stability and Monetary Policy in Low-Interest-rate Environement", Federal Reserve Bank of Cleveland: https://www.clevelandfed.org/en/newsroom-and-events/speeches/sp-20210622-financial-stability-and-monetary-policy-in-a-low-interest-rate-environment.aspx

Mishra, Prachi, and Peter Montiel. (2012) "How Effective Is Monetary Transmission in Low-Income Countries? A Survey of the Empirical Evidence", Economic Systems, Vol. 37(2), 187-216.

Paligorova, Teodora, and João, A.C.Santos. (2017) "Monetary policy and bank

risk-taking: Evidence from the corporate loan market", Journal of Financial Intermediation, Vol. 30, April 2017, 35-49.

Peydro, J. and Maddaloni, A. (2011) "Bank risk-taking, securitization, supervision, and low interest rates: Evidence from the euro area and U.S. lending standards", Review of Financial Studies, Vol. 24, 2121-2165.

Rajan R.G. (2005) "Has Financial Development Made the World Riskier?", National Bureau of Economic Research Working Paper Series, No. 11728.

Roodman, David. (2009). "A Note on the Theme of Too Many Instruments", Oxford Bulletin of Economics and Statistics, 71(1), 135-158.

Saqe, Arisa, Minka, Odeta, and Kota, Vasilika (2015) "Financial Stability Map in Albania", Economic Review, 2015 H1, Bank of Albania.

Shijaku, Gerti. (2015) "The macroeconomic pass-through effects of monetary policy through sign restrictions approach: in the case of Albania", Graduate Institute of International and Development Studies International Economics Department, Working Paper N IHEIDWP11-2015.

Shijaku, Gerti (2016a) "Banking stability and its determinants", Bank of Albania, Economic Review, H1, 18-30. : A sensitive analysisi on methodological changes

Shijaku, Gerti. (2016b) "The Role of Money as an Important Pillar for Monetary Policy: In the Case of Albania", Bank of Albania, Research Paper.

Shijaku, Gerti (2017a) "How does competition affect bank stability after the global crises in the case of the Albanian banking system?", South-Eastern Europe Journal of Economics, 2, 175-208.

Shijaku, Gerti (2017b) "Bank prudential behaviour and bank stability: How far do they go?" Journal of Banking and Financial Economics, 2(8), 127–150.

Shijaku, Gerti (2020) "Bank stability and its relationship with competition among banks after global financial crisis. New evidences from Albanian banking sector", Bank of Albania, Research Paper 40(79) 2019.

Shijaku, Hilda. (2007) "An Investigation of Monetary Policy Transmission Mechanism in Albania", Bank of Albania and Staffordshire University, November 2007, [Unpublished].

Shijaku, Hilda, and Ceca Kliti (2012) "A model for the credit risk in Albania using banks' panel data", Bank of Albania, Research Paper.

Taylor J.B. (2009) "The Financial Crisis and the Policy Responses: an Empirical Analysis of What Went Wrong", National Bureau of Economic Research Working Paper Series, No. 14631.

Vika, Ilir. (2009) "Rol of banks in monetary policy transmission in Albania", Bank of Albania, June (2009).

Vika, Ilir, and Suljoti, Erjona. (2018) "A revesion on banki lending channel in the transmission mechanism in Albania", publication "Stuties on banking system and economic development", Sejko, Gent. (2018), Bank of Albania.

CHAPTER IV: COVID-19 PANDEMIC AND MONETARY POLICY. ALL EYES ON THE CENTRAL'S BANK BALANCE SHEET*

INTRODUCTION

The central bank balance's sheet plays an important role in a country's economy. It is the basis of monetary theory and remains essential in understanding, designing and implementing the monetary policy. Despite this fact, as a result of innovations in the financial market and the evolution of monetary policy theories and practices, the role for monetary well-management is entrusted to interest rates. The COVID-19 pandemic has brought the central bank's balance sheet to the forefront of this nearly 40-year-old "silence." Nowadays, all the attention of monetary economics is focused on expanding this balance sheet as an instrument for supporting the economy with liquidity and clearing it out from the effects of the pandemic. These developments are appealing to emerging economies, but are not always applicable to small and open economies. They are associated with risks, which must be taken into consideration by the authorities and institutions of developing countries.

The outbreak of the COVID-19 pandemic in early 2020 caused a health and social emergency coupled with a strong negative impact on

* *This material was first published in the edition "Pandemic and Recovery: Coping Strategies and Development Expectations", Academy of Sciences, ISBN 978-9928-339-19-5.*

the global economy. Quarantine, uncertainty and all other concerns related to it were accompanied by a sudden decline in the economic activity, rising of unemployment, a decline in capital markets to an unprecedented rate since the Great Depression at the beginning of the last century. This negative shock has sparked wide-ranging discussions in academic and professional circles since its inception. Discussions started with Baldwin and di Mauro (2020), and were followed by Susskind and Vines (2020). Despite unprecedented efforts and rapid development and application of vaccines or finding a cure for this virus, uncertainty remains high and the general consensus is that the economic and financial effects will last long in time.

From the decision-making point of view, the pandemic brought about the immediate response of the monetary and economic authorities, an unprecedented response, which shook the existing consensus on conventional monetary policies. This chapter tries to describe the impact that the pandemic has caused on the basic concepts of design and implementation of monetary policy by central banks in general, focusing on the case of the Bank of Albania.

As stated above, the last two global crises - the financial crisis of 2008 and the pandemic of 2020- brought significant changes in the nature and implementation of monetary policy. In response to the situations, as noted, central banks took unprecedented measures, in terms of both their size and nature. The response to the pandemic is sought "unanimously" for the expansion of the central bank's balance sheet. This has triggered discussions about revising the existing consensus on monetary theory and policy. Basic concepts on the use of the balance sheet as a permanent instrument of monetary policy, described by Bailey et. al. (2020), Powell (2020), Issing (2020) and many other authors, have been discussed by monetarists in the 60s of the last century [Friedman (1969), Tobin (1961, 1969), Modigliani and Stuch (1966)]. In their studies, the authors address issues such as money supply, central bank's balance sheet and preferences for the composition of investment portfolios and their maturity in private sector balance sheets, which describe the money supply and the channels through which it is transmitted and it affects the economy. By offering everything to save the economy, monetary economics has been forced to overturn the prevailing paradigm of the last 40 years.

At the top of this evolution are the banks of advanced economies, which have broken many taboos and fundamental concepts of monetary economics. But how applicable are these concepts to a small, open, euroized economy? How does this evolution relate to the potential risks that these economies face?

These need to be discussed. Markets and institutions must keep in mind that the application of these measures in emerging economies, such as in Albania, is not simple. In addition, their implementation is niether straightforward nor risk-free.

Despite innovations and changes, the core of the concept and implementation of monetary policy remains financial market intervention. Consequently, the instrument and nature of this policy should be determined by the constraints of the intertemporal budgets of the central bank, government, financial and private sector, the development of financial and capital markets, and the implications for the financial stability of the economy. The purpose of this study is to describe this change and discuss the capacity of the Albanian economy and authorities to implement new post-COVID-19 concepts.

1. MONETARY POLICY AND ITS IMPLEMENTATION IN THE CONSENSUS OF THE LAST 40 YEARS

The focus of the central bank and monetary policy is oriented towards macroeconomic stability. In the legal framework of central banks, this orientation is articulated in the form of stability of an important indicator for economic and financial activity within a well-defined time interval. Depending on the specific conditions and preferences on economic doctrines, the main objective of the central bank may be: "currency stability", "exchange rate stability", "employment maximization and / or economic growth" and "price stability". The negative experiences of central banking with objectives such as "maximizing economic growth" or "exchange rate stability", as well as the development of monetary economics and academic

consensus have shown that the best contribution of monetary policy to maximizing economic well-being is price stability.[1] This obsession of central banks with inflation, as a gauge of price change, is explained by developments of monetary theory under the influence of the best practices of central banking during the second half of the last century. Central banks have generally taken the example of monetary policies they have designed and implemented by advanced economies (mainly the US). These economies have served as a laboratory for testing the theories and concepts that have evolved the monetary economics. Consequently, the studies on monetary economics are based on the monetary history of these economies, and especially that of the United States.

In the period right after the World War II, the management of monetary policy was based on the control of the money supply. The still fresh memory from the Great Depression emphasized employment, while fiscal policy focused on interest rates on long-term instruments. Of course, monetary policy was in line with the spirit of Keynesian theories and was formulated within the framework of Bretton Woods's international monetary system. In the late '60s, expansionary policies in support of employment led to rising inflation and inflationary expectations. Two successive crises of oil price in the early 1970s triggered a rapid and steady rise in prices, turning inflation into the most dominant problem in the economy. Monetary policies based on money expansion failed to increase economic activity, leading to the simultaneous increase of inflation and economic stagnation. Meanwhile, the studies of Cagan (1956), Friedman (1970) and Friedman and Zhvarc (1963) found a strong and direct relation between monetary expansion and inflation in the economy. Faced with this situation in the early 1980s, the Federal Reserve (the Fed) shifted the focus of monetary policy to inflation and highlighted interest rates as its main instrument.

[1] *It should be mentioned, that in rare cases, due to the specific historical, social and economic conditions of some countries, or because their central banks have explicit dual mandates aimed at achieving two or more objectives simultaneously, due to collisions or economic events independent from banks, the automatic realization of a second objective is hindered. The statutory presence of this mandate adapts to the specific conditions of the economy it serves. The Federal Reserve has in its legal framework a dual mandate of price stability and employment maximization. Other similar cases, such as that of the Bank of Iceland, receive less attention. This bank combines the inflation targeting regime with an exchange rate management regime. The Reserve Bank of New Zealand also has a dual mandate of price stability and employment maximization, since 2019.*

Recognizing the independence of the central bank as a cure against inflation and intertemporal mismatch,[2] the Fed increased immediately and strongly the interest rates to 20%, and thus managed to control inflation and the economy, and then stimulate economic growth. From this point on, central bank's independence and interest rates became key instruments for the success and stabilization of price fluctuations and other macroeconomic indicators. This concept became the conventional model of monetary policy. The theoretical foundations of this model have been described and articulated by Woodford (2003). In this model, optimal monetary policy means finding a golden rule for setting the short-term interest rate in the economy and using open market operations to ensure that market rates stay close to the key rate of monetary policy, assuming that agents are rational and operates in perfect markets. The central bank conditions the activity with a limited number of actors (commercial banks) for the exchange of a marginal amount of liquidity through short-term trading of financial instruments with fixed frequency and against zero risk collateral. The interest rate on traded / offered instruments is non-negative limited from below to the minimum level of "zero". The interbank / financial market is clearly the main link in the monetary policy transmission chain. The model stands out for some strong assumptions such as "rational agents", "markets" and "perfect information", but the last two decades have shown that they are not very applicable in reality.

The above model applies and is implemented in all cases of an independent monetary policy, regardless of its main objective (inflation, unemployment, long-term interest rates or nominal GDP). However, in the vast majority of academic and institutional discourse, it is attributed to inflation. This regime directly and exclusively oriented toward inflation was methodologically sanctioned and formally adopted by the Bank of New Zealand in 1993, as the Inflation Targeting Regime, with the sole and direct focus on price stability. From now on, Inflation Targeting has been implemented in almost all advanced economies, under conditions of a flexible exchange rate regime and free movement of capital. This regime was adopted by many other central banks in advanced and developing countries, but also in the countries of Central, Eastern and Southern Europe, inlcuding Albania.

[2] *In literature, the original term is:* time inconsistency problem.

2. CHANGING THE MONETARY POLICY FRAMEWORK AND THE ROLE OF THE CENTRAL BANK'S BALANCE SHEET

History shows that the implementation of the Inflation Targeting Regime generated a relatively long period of stable prices and rapid economic growth. However, it is a fact that it was "born" and coexisted with the phenomenon of globalization, the information technology and digital revolution that brought significant structural changes in the economy and the labour market, and at the same time with the fall of geopolitical tensions in the world. All of these phenomena together also influenced prices to remain relatively low for decades after the 1990s.

Guided by the inflation target and believing in the strong assumptions mentioned above, central banks initially lowered interest rates continually and kept them low for a long period of time, focusing on both the employment and business cycles. In the absence of inflation in consumer goods, the effects of expansionary monetary policy were reflected in asset prices. Driven by low interest rates, the private sector, the financial sector and even the governments of many countries overcame their intertemporal budget constraints and actually faced bankruptcy, leading to the crisis of 2008. The global financial crisis brought to the fore the issues of financial stability and identified the need to coordinate monetary policy with financial stability. Faced with the crisis, the need to support the economy with credit and the financial sector with ample liquidity, the authorities of advanced countries in a rapid manner lowered interest rates, reaching the limit of 0% or values very close to it. Consequently, the monetary policy lost its main instrument. The theoretical model described by Woodford 2003 did not work in terms of zero interest rate bound.

As a result of a "desperate" situation, interest rates fell below zero, shifting for the first time in history, in a negative territory. However, damaged (as a result of debt) balance sheets of the private sector and regulatory credit constraints as a result of financial stability problems in the banking system (non-performing loans) drove attention from the interest rate to money management, through the expansion of

money supply, meaning, towards the expansion of the balance sheet of central bank. These policies were called unconventional policies and were based on the purchase of securities in the capital market, aimed at supplying liquidity in the economy, boosting lending activity to the private sector and at the same time influencing the interest rates of long-term instruments. The operational framework of central banks changed to expand the activity with an unlimited number of actors, to exchange an unlimited amount of liquidity for trading financial instruments across the maturity spectrum, against collateral with acceptable risk (ie not with zero risk). As a result, central banks' balance sheets expanded to unprecedented proportions. This was a fundamental change in the theory and practice of central banking and can be well illustrated by the statement of the ECB President, Mario Draghi (2012): "The European Central Bank (ECB) will do whatever is necessary ...".

In fact the use of balance sheet is not a novelty. It is precisely the attention of the last 40 years on interest rates that has shifted the focus, or rather, has overshadowed the role of the central bank's balance sheet. Any money "created" and put into circulation represents a liability of the central bank. This liability takes the form of a currency or banknote in circulation, or the reserves of commercial banks in their accounts at the central bank and is recorded in the balance sheet of the latter on the liabilities side, subcategory "Currency in circulation" and/or Reserves of banking system ".[3] Simultaneously with the recording of this liability, a balancing recording is made on the assets side for the same value. For example, if a new issuance

[3] *For a more complete explanation of our analysis it is important to note that the central bank balance sheet on the liabilities side is supplemented with subcategories "Liabilities to government" and "Central bank capital", which is measured as the difference between the assets and liabilities of the central bank and is the channel through which it covers potential losses. Similar to the case of private institutions, the capital is very important, because through this indicator it is understood whether the central bank is able to meet its obligations, ie the value of money in circulation. Reduction or loss of capital would lead to a loss of confidence in the national currency and the credibility to the central bank. All the above liabilities are balanced by a wide category of valuable assets, among which the main place is occupied by foreign exchange reserves. It represents the main form of assets held by central banks in the form of cash, deposits or other financial investments in foreign currency or monetary gold. The purpose of maintaining them is to meet current needs in times of crisis, as well as to meet the short-term obligations of the country. Meanwhile, collaterals set by commercial banks, in exchange for loan transactions they receive from the central bank, complement other categories. Other net items cover all other elements of assets in the bank balance sheet that are not included in the asset items above, e.g. real estate investments etc.*

is put into the market for the purpose of purchasing euro coins, the recording occurs under the item "International Reserve"; if the issuance is a loan to the banking system, it is recorded as an increase in the reserves of the banking system with liabilities, and at the same time a balancing entry is made in the item "Loans to banks as financial intermediaries".

Consequently, when the monetary policy rate reaches zero bound, the increase in money supply is realized through one of the following two actions: (i) the increase of the excess reserves of the banking system at the central bank, or (ii) the purchase of securities in the capital market, in exchange for the increase of money in circulation.[4] Bernanke (2009) explains that these actions are baptized as "quantitative easing"[5] and "credit easing" and together constitute the central bank's budget expansion policies. They have been defined as unconventional policies. The post-crisis monetary policy of 2008 attempted precisely to increase these two items in the central bank's balance sheet. The principles and mechanism of operation are based on Tobin's portfolio composition theory and on Modigliani and Stuch's maturity preference theory. For a practical explanation and implementation see Butos (2015) and Gagnon et. al., (2011).

Increasing excess reserves is a direct way to increase the central bank's balance sheet. This is a fast and efficient measure, which according to Reis (2019) has been used effectively by the Federal Reserve under the Quantitative Facility Program (QE1). However, it is insufficient and does not guarantee the desired economic effects if banks do not use these reserves to lend to the economy. This is especially true firstly, as described by Walsh (2010), in terms where

---

[4] *A third alternative is to finance budget expenditures to cope with the crisis by expanding the balance sheet. This is an alternative elaborated and discussed mainly by academics Bernanke (2019), Gali (2020), Turner (2015), Buiter (2014). However, the above authors have also argued this alternative based on specific assumptions out of reality, acknowledging that it is difficult to implement in real terms and may pose a risk to the central bank's credibility and independence, and as such to its confidence on money. Disytat and Zabai (2016), Masciandaro (2020) and Barthelemy and Penalver (2020) illustrate why this policy does not work without subjecting the independence of monetary policy. Consequently, the financing of budget expenditures through the central bank balance sheet has been considered as a theoretical argument and has been set aside from its practice.*

[5] *The original terms in the literature are respectively: quantitative easing (QE), credit easing (CE) dhe balance sheet policies.*

the "precautionary" money demand from the household and private sector reaches the maximum level (satiation level) W; [6] and secondly when we have a slowdown in lending by the banking sector (either as a result of declining credit demand as a result of impaired private sector balance sheets, or as a result of credit supply constraints, as a result of budgetary or regulatory constraints which are "imposed" on the banking system by non-performing loans). In these cases, the excess reserves created by the expansion of the central bank's balance sheet may remain in the accounts of commercial banks without being put into the economy.

For this reason the central bank is forced to intervene in the market to buy private sector's securities through credit easing. This allows the central bank to put large amounts of money into circulation and to change the composition of financial assets in private sector portfolios, replacing private sector portfolio investments (households and enterprises) for central bank liabilities (cash). The bank's balance sheet increases on the liabilities side with the amount of money put into circulation on the market and at the same time on the assets side, with the same value, for the amount of securities or financial assets purchased. The policy is effective in cases where agents in the economy face credit constraints. Early studies by Tobin (1961, 1969) and Brunner and Meltzer (1973) show securities purchases also have an effect by manipulating relative supply in private sector portfolios, known as the portfolio balance channel. Another important channel that enables the success of monetary expansion through the purchase of securities is based on the theory known in technical language as "the preferred habitat theories" and proposed by Modigliani and Stuch (1966).

Studies by Curdia and Woodford (2011), Gagnon et al. (2011), Kioytaki and More (2012), Gagnon (2016), Haldane et al., (2016), Tischer (2018), Rodnyansky and Darmouni (2017), Reis (2019), and D'Amico and Kaminska (2019)), as well as many other researchers, have proven the existence of transmission channels of quantitative easing and credit. However Goodhart and Ashworth (2012) and Borio and Zabai (2016) point out that the effects of these

[6] *The original term used in the literature is: precautionary money demand exercises satiation.*

measures fade over time, in turn maintaining monetary stimulus in the economy requires the repetition of quantitative easing programs on an ongoing basis. However, sceptics like Greenlaw et al. (2018) and Fabo et al. (2020), do not find strong evidence for the positive effects of unconventional policies.

Despite empirical studies in favour of these measures, the positive effects on economic recovery and employment remain generally far from pre-crisis equilibrium (with the exception of the US economy, which experienced the longest period of economic expansion and where unemployment fell to record levels down to 3.5%). Unconventional monetary policies proved particularly powerless to guarantee the achievement of the inflation target, which although stable remained below the target for long periods of time. Consequently monetary policy remained under the effect of quantitative easing for more than a decade.

While the academy argued for the effectiveness of the measures of this "new normal", the COVID-19 hit the world and imposed quarantine, causing an unprecedented shock on the economy and on the global production and trade chains. The negative impact on employment, production, consumption, investment and on financial stability was clear and immediate. The magnitude of this shock, its transmission channels and the negative effects caused by high health, social and economic uncertainty still remain to be fully assessed, but it is thought that the economic impact will be comparable or greater than that of The Great Depression of 1929-1933.

3. PANDEMIC, CENTRAL BANKS AND THEIR MONETARY POLICY DURING THE PANDEMIC

Extraordinary shocks require extraordinary responses. Consequently, central banks responded immediately, by expanding and deepening conventional (when possible) and unconventional policies to issue unprecedented amounts of money in the economy. At the same time, operational policies were adapted to provide unrestricted liquidity. The purpose of these actions was to allow cash flow into the economy, in order to support the private sector and households with liquidity,

and to provide favourable credit terms and conditions. At the same time, temporary facilitations for the regulatory framework of banking supervision and financial stability were implemented, driving to eased rules on capital, liquidity, credit restructuring and addressing the issues of financial stability, eliminating regulatory restrictions on credit supply and increasing lending capacity of banks.

Similar to the case of the monetary policies described above, world practices refer to the leadership of the US Federal Reserve (Fed), the European Central Bank (ECB), the Bank of England (BoE) and the Bank of Japan (BoJ), which took emergency measures. Specifically by the end of 2020, the ECB in addition to the existing APP program (Asset Purchasing Program) equivalent to 1.2% of Euroarea GDP, has undertaken a new program dedicated to PEPP (Pandemic Emergency Purchasing Program) worth 13.3% of Euroarea GDP; The Fed is thought to have expanded its balance sheet by about 10% of GDP and has not set a limit on the amount of asset purchases. The ECB, the Fed and the BoJ have adopted massive and unlimited liquidity programs. The ECB, meanwhile, established the Eurosystem repo facility for central banks (EUREP) to provide preliminary repo lines for central banks outside the Euroarea. In some cases, such as that of the Central Bank of Switzerland, additional liquidity has been made possible as a result of significant interventions in the foreign exchange market.

Monetary policies are supported and coordinated with a set of macroprudential policies. Central banks have eased financial requirements to institutions as a support to the economy, to avoid the immediate effects of the pandemic on the stability of the financial system and the private sector, and to ease the impact of regulatory

constraints on credit and system activity.[7] In fact both policies are seen as a combination and complement to each other.

Unconventional policies in advanced economies have served as examples and have been replicated by emerging economies. The reduction of interest rates, the easing of the operational framework and the coordination with macro and microprudential policies has been adopted by all the economies of Central, Eastern and Southeastern Europe.[8] In addition to these traditional measures, some CSEE countries have adopted measures similar to quantitative easing. Thus Bulgaria, Romania, Croatia and Serbia have undertaken several programs for the purchase of government securities although not as aggressive as the programs in developed countries.

Also developing countries, including those of CSEE, have had the opportunity to benefit indirectly from the excess liquidity and low rates that these policies impose on global capital markets. Monetary

[7] *The main measures include: temporary easing from the obligation to hold countercyclical amortization capital and allow operation under the liquidity coverage ratio. Some banks have also eased their regulations for liquidity in foreign currency. The European Central Bank banking supervision allowed institutions to operate temporarily under P2G (Pillar 2 Guidance), capital additions and liquidity coverage ratio (LCR), while the Fed reduced the bank leverage ratio to 8%. The ECB, the Bank of England and some countries in the region, such as Croatia, Bulgaria and Slovenia, have also banned banks from distributing dividends in order to preserve capital and stimulate lending. The Fed has reduced the required reserve ratio to 0%, claiming that the measure "will help support lending to households and businesses".*
Central banks have also facilitated access to non-performing loans by enforcing moratoriums on loan installment payments and encouraging restructuring and close cooperation with pandemic-affected borrowers. The Fed encouraged depositing institutions to use their capital and liquidity allowances to lend, to work constructively with borrowers affected by COVID-19, and to ensure that COVID-19-related credit restructuring would not classified as bad debt restructuring. The ECB has provided flexibility in classification requirements and provisions losses expectations for non-performing loans that are covered by public guarantees and the public moratorium in regard to COVID-19. The ECB and the Fed have also facilitated reporting and supervisory access to banks.

[8] *The banks of Bulgaria, Hungary and Poland have cancelled the increase of the countercyclical capital increase planned for 2020 and 2021, while the Czech National Bank reduced the rate of the cyclical capital increase by 75 pp to 1%, effective on 1 April 2020, whilst on 18 June further reduced it to 0.5%, effective on 1 July 2020. It also eased conditions for new mortgage loans, raising the recommended maximum of LTV from 80 to 90%, the DSTI from 45% to 50% and removing the DTI from the list of recommendations. The National Bank of North Macedonia has revised its credit risk regulation to encourage banks to temporarily restructure loans, and has eased credit rating standards for non-performing loans. The Croatian Association of Banks has agreed to defer repayment of loans for the tourism sector up the end of June 2021. Central banks in the region have imposed moratoriums on loan instalment payments.*

policies based on the central bank balance sheet seem not only tempting and adaptable, but also risk-free by the monetary and fiscal authorities of emerging economies. Nagy (2020) describes this attitude as a "silent revolution" that may be associated with negative consequences in the future.

In conclusion, the response of monetary policy of central banks during the pandemic was the strongest application in size (over 10% of GDP), the most comprehensive in instruments (higher degree of risk), and the fastest in time, unconventional policies through expanding the central bank's balance sheet. This is the unanimous consensus that was formulated in response to the crisis.

Bailey et al., (2020), is currently one of the most complete formal articulations of this consensus, according to which the balance sheet of central banks is the best instrument to respond to crises. These authors conclude that the common lesson emerging from the global financial crisis and the COVID-19 pandemic is that policymakers need to be prepared to respond decisively to the unexpected. For central banks, the willingness to use the balance sheet as a policy-making instrument lies at the heart of this preparation.

Authors suggest that the use of the balance sheet is particularly justifiable in conditions when interest rates are below or near zero and financial stability issues hinder the efficiency of monetary policy transmission. Hence, Bailey et al., (2020), argue that the central bank balance sheet should be considered a permanent monetary policy instrument that is subject to countercyclical adjustment. The operational aspect of monetary policy should be constructed in such a way as to support this countercyclical balance in function of monetary policy and financial stability. Schnabel (2020), in the same line, describes the ECB's purchasing program, ie increasing the central bank's balance sheet, as the best and most effective instrument for achieving the inflation target and unifying monetary policy in the Euroarea. Powell (2020), meanwhile, attributes the need for ever-increasing and permanent monetary policy support on the expansion of the central bank's balance sheet to the structural changes observed in the economy in relation to the so-called natural levels of unemployment and prices over the long term. These changes

in addition to the crises make it necessary to support monetary policy in expanding the central bank's balance sheet more than in the 40-year tradition of central banking for developed economies.

However, Reis (2019), a supporter of unconventional policies, in his conclusions mentions: "The 'new normal' (referring to the unconventional policies of quantitative easing and credit) is what science has learned from practice, and I hope that science will provide information for future practice." This conclusion proves that more data and more time will be needed for studies to give the final verdict on the validity of these policies, and the conditions under which they are successful. However the verdict for the moment in advanced economies has been given. Modern monetary theory will rely on expanding the balance sheet as its permanent instrument. Surprisingly this verdict is very similar to the monetary paradigm of the 1960s, discussed above. It resembles instruments and transmission channels, but is many times bigger regarding its interference.

In conclusion, the impact that the pandemic brought on monetary policy can be illustrated by comparing the conclusions of Borio and Zabai (2016) with those of Bailey et al. (2020). If after the 2008 crisis, Borio and Zabai (2016) considered quantitative easing programs as temporary measures to support monetary policy, after the pandemic the expansion of the central bank balance sheet is considered as a permanent monetary policy instrument by Bailey and his co-authors. This is a complete and clear distinction, and most likely the expansion of the central bank balance sheet will be the dominant paradigm in the design and implementation of monetary policy. This change will also affect the discussion and conceptualization of monetary policy by central banks and developing economies. It is therefore important to deem on the implications of this new consensus of the monetary policy of the Bank of Albania at the present and in the future.

4. PANDEMIC AND THE MONETARY POLICY OF THE BANK OF ALBANIA

The Albanian economy is a small open economy, on the border with the euro area, which is also its largest trading and financial partner.

Previously an economy in transition, Albania today has the status of a developing economy, and over the last 30 years it has experienced a rapid economic growth and admirable macroeconomic and financial stability. This increase was initially based on the positive effects of redistribution of production factors (Kota 2007) and then on the development of the banking sector. Despite the rapid development of the banking sector, other segments of the financial and capital markets are still underdeveloped and trading volumes in these markets are non-existent, with the exception of trading of government securities (treasury bills and bonds). Relatively high current deficits are a distinctive feature of the Albanian economy and are attributed to the negative balance of savings - investments of the public and private sector.

The Bank of Albania is mandated to maintain and guarantee price stability in the economy[9]. The main policy objective of the Bank of Albania is articulated as maintaining inflation of consumer prices at 3% ± 1%, for a medium-term time interval. In line with this objective, the Bank of Albania formulates its monetary policy in the framework of the inflation targeting regime.[10] The monetary policy regime operates under conditions of a floating exchange regime and the liberalization of current and capital accounts. Specifically, monetary policy since 2002 is focused on determining the key interest rate. The Bank of Albania has operated *de facto* similarly to the inflation targeting regime since the mid-2000s, to adopt it implicitly in 2009 and explicitly since 2015[11]. The decision on the basic monetary policy rate "repo - reverse repurchase agreement" is based on inflation forecasts and analysis of real and financial markets. In addition to the primary price target, the Bank of Albania defines financial stability as an important secondary objective. Financial intermediation is one of the main factors that have supported the rapid growth of the Albanian economy. Sejko and Dushku (2018) find a reciprocal link between financial intermediation and economic

[9] *Price stability has been a key objective of the monetary policy at the Bank of Albania (BoA) since the early 1990s. "Price stability" as the main objective is clearly stated in the law on the Bank of Albania drafted in 1997. Even in the law of 1992 on the Bank of Albania the "maintenance of the value of the national currency" has been specified as the main objective, with the aim that "for it to provide the stability of consumer prices"(Kolasi, 2001).*

[10] *See Monetary Policy Statement, 2015.*

[11] *Monetary Policy Document (2015).*

growth. The financial sector gives an important contribution to the macroeconomic and financial stability of the country. Financial intermediation is an important element for the transmission of monetary policy. Vika and Suljoti (2018) present evidence that lending activity plays an important role in aggregate demand and price levels, mainly through the bank credit channel; whilst Bahmani, Mitezi and Tanku (2020) show us that the interest rate is an important determinant regarding money demand. Sejko (2018) presents a summary of studies on the issues of financial stability and banking supervision and their relationship with monetary policy and economic activity and vice versa.

From the economic and financial point of view, the euro area plays an important role in the Albanian economy. This role coupled with the political, institutional, legal, economic and social orientation towards the EU provide for the Albanian economy to have a high degree of euroization and a synchronization with the economic and financial problems in the Euroarea. Consequently, the exchange rate and the stability of public debt are important factors for financial stability. Due to the high degree of euroization, the exchange rate and its fluctuations play an important role on financial stability. This phenomenon became apparent during the global financial crisis of 2008, when a 13% depreciation of the domestic currency together with the reduction of economic growth contributed to the rapid increase in non-performing loans, as well as to the significant slowdown in the growth of credit and financial intermediation in general. This is also confirmed by Shijaku and Ceca (2010), who deem that the exchange rate is one of the most important factors for determining the performance of non-performing loans during that period. On the other hand, the high increase of non-performing loans affected the indicators of banking health, leading to a further slowdown in lending. Consequently, the fall in interest rates does not materialize in the growth of new loans, thus reducing the efficiency of the monetary policy transmission mechanism.

Despite this determining role in financial stability, exchange rate fluctuations are mainly explained by macroeconomic fundamentals. Moreover, the exchange rate plays a damping role and does not create shocks to the real economy [Tanku and Vika (2020)]. Therefore, the

Bank of Albania has chosen to control the effects of the exchange rate on prices and financial stability only through monetary and macroprudential policy, and not through direct control over the exchange rate. Sporadic interventions in the foreign exchange market are conditioned only for the purpose of filling foreign reserves and addressing disturbances in the foreign exchange market. Vika (2016) finds that the interventions are small, fast and successful; consequently the Bank of Albania does not find it necessary to control the exchange rate. The high degree of euroization, the effects of monetary policy on the exchange rate and its interaction with the stability of the banking system have required the coordination of monetary policy with macro and microprudential policies of financial stability, to eliminate potential conflicts between the two policies. The 2008 financial and debt crises in the southern economies of the euro area led to the decline in exports, the depreciation of the exchange rate and the increase of non-performing loans, as well as the deterioration of the balance sheets of the private sector. Together they caused a reduction in the economic growth rates. Consequently, the decline in aggregate demand in the economy and the reduction of inflationary pressures in global markets have kept inflation close to the lower bound of the Bank of Albania's target, but at a stable level and with a minimum volatility. In response to these developments, the BoA's monetary policy has been conventional and has been based on the continuous reduction of the key interest rate and the easing of the operational framework, when necessary. The banking sector has been stable and has continued to support the economy with credit. The indicators of capitalization, liquidity, profitability, as well as the stress test results at the end of 2019 proved a satisfactory and stable performance of this sector. This was also reflected in the significant decline of the non-performing loan ratio, which for the first time in the last 10 years recorded a single-digit level of 8.4%. The bank debt burden was considered affordable for both households and businesses, and the banking sector's exposure to risks had dropped to fairly controlled levels. Indicators of macroeconomic and financial stability and the medium and long-term economic outlook were positive.

However, the COVID-19 pandemic hit the Albanian economy in an unfavourable manner. The devastating earthquake of 26th

November that hit the country increased uncertainties for economic activity in the short term, leaving the country at a "stagnant" situation in the last quarter of 2019. The health emergency, the measures taken for its control by the government authorities in Albania and in the world had immediate effects on the economic activity in the country. The temporary closure of production and service activities, some of which for several long months had a direct impact on the supply side, especially on economic activity and the labour market. In addition, measures of social distancing, uncertainty about the evolution of the pandemic, change of consumer preferences due to fear of infection (consequently, limited attendance at public places, shopping malls, etc.), as well as declining family incomes (as a result of the suspension of activities, the decline in remittances, the reduction of sales or other financial difficulties of businesses), led to a general slowdown of almost all components of aggregate demand. The economic consequences of the pandemic affected the supply chain and were felt more prominently in the tourism and services sector, as the domestic economy relies heavily on trade and investment with the European Union. On the other hand, fear from the pandemic in the second quarter strained the normal functioning of the financial markets in the country, although it didn't succeed to affect it.

The magnitude and speed of the shock to the economy was reflected in the immediate contraction of services and other quarantine-affected activities. According to reports from the Institute of Statistics, the inflows and outflows of citizens in the Albanian territory during January-July 2020 were less than half the number in the same period a year ago. Meanwhile, exports (imports) of goods decreased by 16.8 (13.2%). In the second quarter alone, the value of travel trips in the current account balance had lost over 85% of the previous year's calculations. The negative performance of economic activity in the first quarter by -2.5% was followed by a decline of -10.3% in the second quarter. The deteriorating confidence of businesses and consumers, the reduction of consumer spending on services and the purchase of goods for long-term use, as well as the decline in capacity utilization rate colse to the historical low level, supported the central bank's scenarios of a deep contraction of the gross domestic product in 2020. What is more concerning is the uncertainty regarding the

forecast for the future. In these conditions, the Bank of Albania through monetary policy and macro and microprudential policy coordinated with fiscal policy and the government intervened with a package of measures to mitigate this shock and avoid its consequences. It is very difficult to summarize and explain the measures taken by the Bank of Albania in the limited space of this paper.[12] The following discussion summarizes the key elements of this decision-making and the instruments through which it is transmitted in the economy. The mechanisms and reasoning behind these measures are found in the general description of the characteristics of the Albanian economy and the nature of its monetary and operational policy, described above in this paper. For more please refer to the regular reports published by the Bank of Albania.[13] The measures taken firstly and foremost aimed at mitigating the negative shock caused by the pandemic. In the area of monetary policy, this was translated to an immediate reduction of the key interest rate by 0.5 percentage point, reaching at 0.5% on 25 March 2020.

In the operational framework, the Bank of Albania took the necessary measures by enabling an uninterrupted flow of credit and financial services to preserve lending capacity of banks to the economy. For this purpose, the Bank of Albania changed the form of weekly auctions for additional liquidity injection in the financial system, by adopting the operational strategy of unlimited liquidity injection, through conducting auctions with unlimited amount and fixed price. The corridor of permanent facilities was also narrowed, with the interest rate on overnight deposit facility and overnight lending facility at 0.10% and 0.90%, respectively. The Bank of Albania also intervened in the foreign exchange market at the end of March to mitigate the temporary volatility as a result of the closure of the economy and the closure of activity in the country. Increased special attention has been paid to the constant communication with the public on the measures taken and the expectations for the future.

---

[12] *Bank of Albania 2020, Bank of Albania Response to COVID-19, published on the official website of the Bank of Albania, at: https://www.bankofalbania.org/Press/COVID-19/*

[13] *For a more complete description please refer to: Decisions of the Supervisory Council of the Bank of Albania, Orders by the Governor of the Bank of Albania, Monetary Policy Report, Financial Stability Statement, Press Conferences of the Governor.*

The Bank of Albania also undertook a series of macro and microprudential measures to ensure that the short-term problems caused by the pandemic and quarantine would not hamper lending activity in the economy. Specifically, it signed a moratorium on extending the payment of loan instalments to households and businesses affected by the pandemic; it also undertook temporary regulatory facilities, which allowed banks to accommodate the moratorium without deteriorating the banking health indicators and their intermediary activity. To address the liquidity problems of firms and households, the Bank of Albania extended the temporary suspension of the obligation deriving from the requirements for credit risk management, credit rating and provision for all categories of customers, until 31 August, enabling the postponement of loan instalments without penalty. Another measure was the adoption of a regulation that allows banks to restructure loans by 2020 at no additional cost of provisions and without deteriorating the borrower status. The entry into force of the stricter requirements for the classification and provisioning of restructured loans was postponed to 2022, also the entry into force of the regulation "On out-of-court treatment of distressed borrowers by banks".

At the same time, the Bank of Albania decided to address in an eased manner the banks' exposures to the Albanian government's debt securities in foreign currency in accordance with the capital adequacy regulation and the regulation of large exposures. This measure is valid for securities issued during 2020. In addition, it was decided to suspend the distribution of dividends to the banking system.

Another measure was signing an agreement with the ECB on lending of funds in EURO to meet the unforeseen needs for financial stability matters. Thus, on 17 July, the agreement for the establishment of a repo line of € 400 million for a quarterly term was signed.

This framework of measures and regulatory changes are similar to those taken by the European Central Bank and those of the region. What may be striking to you is that unlike other central banks of advanced economies, the Bank of Albania has not applied unconventional monetary policy measures of the nature of quantitative easing or credit easing. In other words, it did not use

the balance sheet expansion as a monetary policy instrument. This is due to the fact that at the time of the outbreak of the pandemic, the basic monetary policy rate of the Bank of Albania was neither in negative territory nor at the zero limits, and consequently there was still room for its reduction and the exercise of monetary policy in its conventional form. The Monetary Policy Report 2020 / III estimate that the current monetary conditions provide the necessary stimulus to boost economic growth and to return inflation to target by 2022. However, the report states that the Bank of Albania follows the developments in a careful manner and is willing to intervene with monetary policy if the economic and financial situation deteriorates. What form can this stimulus take? Can the Bank of Albania implement unconventional policies in the form of quantitative easing based on the increase of its balance sheet, similar to what has happened in advanced economies? In this regard, it should first be re-emphasized that the Bank of Albania estimates that theoretically there may still be room for lowering the key interest rate, given that the monetary policy rate in the euro area is negative. For more, Della Vale et al., (2018), explain that the assessment of the lower limit in the existing conditions and characteristics of the Albanian economy may not be direct and one-dimensional. Decision-making regarding interest rate includes compromises and interactions with issues of financial stability and vice versa. Specifically, the examination of the monetary policy area and monetary conditions is carried out through a comprehensive monitoring system proposed by Della Vale et al. (2018). This system enables the evaluation of the effects of monetary policy coordination with macro and microprudential policies for the easing of monetary conditions in the economy, increasing the scope of the Bank of Albania.

Second, it should be said that the Bank of Albania, in principle, follows and studies all developments in the theory and practice of monetary policy economics (such as balance sheet expansion policies) and discusses the possibilities for their application, be them hypothetical cases. However, in this case it should be understood that the real possibility of the Bank of Albania to use and the extent of these policies is conditioned by the structure and development of the capital market in Albania. As understood from the description in the first part of this paper, the essence of policies based on expanding

the central bank's balance sheet lies in the exchange of money and deposits of the banking system for tradable financial market and capital market instruments.[14] In all cases of applying quantitative easing policies, the expansion of the central bank's balance sheet liability was offset by the expansion for the same value of the balance sheets' assets with securities of the government or private sector, and never in the form of transfer without exchange. This exchange guarantees that the capital of the central bank and its reliability, as well as of the national currency remain unaffected. Otherwise, the central bank's capital would be significantly reduced and it would lose credibility.

Unconventional policies in advanced economies have been made possible by the existence of a wide range of tradable private sector instruments. But as we pointed out above, the real possibility of the Bank of Albania to use and measure unconventional policies is conditioned by the structure and development of the capital market in Albania, which is very limited. With the exception of Albanian government securities, this market has no other tradable instruments of the financial sector or the private sector, which could be purchased by the central bank to enable quantitative easing and expand the balance sheet of the Bank of Albania.

In other words, this market does not exist and this severely limits the use of the central bank's balance sheet for monetary policy purposes. Consequently, in the current conditions, unconventional policies practically have as an upper limit the sustainability of public debt. In other words, the expansion of the central bank's balance sheet can be achieved through quantitative easing of the purchase of government securities in the secondary market, until the moment when public debt reaches the limit of long-term sustainability. This limit exists and is particularly notable for emerging economies. According to Kimura et al. (2003), another risk associated with the application of expansionary policies based on the expansion of the bank's balance sheet is the mixing of the monetary policy with fiscal policy. The purchase of significant quantities of securities in a shallow, partial and consequently high-risk market in a developing economy pushes monetary policy into its fiscal territory. By supporting certain sectors, by accumulating losses

[14] *Referring to government or private sector debt or assets securities.*

from risky assets on the balance sheet, or by permanently financing fiscal deficits with new emission, the central bank transfers the cost to taxpayers and is de facto involved in the redistribution of resources in the economy. Precisely these and many other facts, described by Danau (2020) are the reasons why emerging economies should be cautious when applying the central bank's balance sheet as an active monetary policy instrument. Emphasizing the dominant characteristics of emerging economies, Danau draws attention to the issues that the application of Modern Monetary Theory may bring, mentioning channels on how these characteristics undermine the financial and macroeconomic stability of emerging economies.

Beyond the constraints discussed above, it should also be understood that the effectiveness of the monetary policy based on the balance sheet of the Bank of Albania is an issue that remains to be proven. The impact of money supply growth on real economy indicators is not a proven fact. Moreover, Ibrahimi and Luçi (2004) find that the relationship between monetary mass and effects on the real economy has faded since the early 2000s. Empirical evidences are limited and in the absence of formal assessments it is difficult to quantify the size of purchasing programs to achieve the desired monetary policy objectives. The only event that can be used to observe these hypothetical effects is the case of currency purchases in the domestic foreign exchange market during 2017-2019. The interventions made in the foreign exchange market for this period were driven by the increase of foreign exchange reserves and then to amortize the appreciation of the lek as the main reason for not achieving the inflation target. Dushku and Shijaku, (2017), and Dela Vale et al., (2018), provide a complete description of the motives, size and manner of the realization of these interventions. Although in both cases the BoA's policies were not intended to increase the bank's balance sheet as an instrument of unconventional monetary policy, they are the closest to quantitative easing, as used in the case of the Central Bank of Switzerland. These interventions have resulted in the relatively rapid expansion of the Bank of Albania's balance sheet, about 15% in June - November 2018.

Despite the increase in the bank's balance sheet and the increase of the amount of money in circulation, the impact on real indicators

has been at its best marginal situation. This is because the high rate of euroization and the real interchange use of the lek with the euro and vice versa, as a means of payment, makes the expansion of the balance sheet through the increase of foreign reserves to have mainly indirect effects through the exchange rate channel. But given the effect of the exchange rate on financial stability, these impacts are not always expansionary, so it is difficult to have an accurate judgement. What is noticeable concretely is that the growth of money has in fact led to the rapid and considerable decline of the speed of its circulation. Meanwhile, studies at the the Bank of Albania on the demand for money find that the speed of circulation is stable and that the increase of money supply should have resulted in a faster growth of nominal indicators such as the exchange rate or inflation. In contrast, the current result can be interpreted by the increase in the "precautionary" demand for money under the pandemic conditions or by the presence of non-linearity in the demand for money, as found by Bahmani, Mitezi, Tanku (2020), in relation to the exchange rate. Consequently, it is necessary that the application of these new monetary policy strategies to be preceded by empirical estimates for the precautionary demand and the size of the parameters of empirical models for the quantification of these interventions in the specific conditions of the Albanian economy.[15]

CONCLUSIONS

The COVID-19 pandemic caused a major negative impact on the economy and society, as well as an equally rapid and strong reaction from the authorities and central banks. Through the economic and financial emergency, the pandemic has simultaneously affected the very concept and instruments for the implementation of monetary policy, giving rise to a strong debate in academia and financial institutions.

Faced with the need to apply expansionary policies while monetary policy rates were very close to zero, or in negative territory, and when the issues of financial stability of the private and banking sectors have damaged the efficiency of the monetary policy transmission

[15] *For a more complete and illustrated discussion of this issue, see Chapter 6.*

mechanism, central banks in advanced economies have resorted to unconventional measures to increase monetary expansion. This latter has been ensured through the multiple expansions in the size and instruments of securities purchase programs in the capital markets, and through so-called quantitative easing or credit easing programs. These measures aimed at the immediate liquidity injection to the economy, guaranteeing ample and cheap credit supply to the private sector and ensuring the stability of the financial system and the economy in general. The academy and central banks of advanced economies are crystallizing the idea of using the balance sheet as a direct and permanent instrument of monetary policy, especially in the presence of low interest rates and the inefficiency of the monetary policy transmission mechanism in the economy. Conventional policy and quantitative easing have been part of central bank practices since the global financial crisis. However, until the outbreak of the pandemic they were considered as interim measures, while currently are being proposed as part of the unconventional monetary policy. Under these conditions, as in other cases in the history of monetary economics, central banks have become a laboratory for testing new monetary policy implementation strategies and practices, putting the central bank's balance sheet in the spotlight as a valid, efficient and permanent instrument for the implementation of monetary policy.

Three crucial elements stand out in this strategy: first, the balance sheet expansion does not represent central bank transfers but rather new money exchange transactions for securities. For each increase in liabilities in the central bank's balance sheet there is an equal increase in assets; second, the expansion of the balance sheet (transmission channels) is enabled and materialized by the presence and trading of securities in the capital markets; and third, the central bank's balance sheet is considered a permanent countercyclical instrument. It is also obvious that in the concept adopted by academics addressing the monetary policy implementation based on the central bank balance sheet, but also in the practices applied by the Fed, the ECB and the BoJ, some basic concepts of the existing consensus (before the pandemic) for the stability of the interim balances of the government, the central bank and the economy in general, are overlooked. Expressed in the form of qualitative principles of monetary and fiscal policy independence, or quantitative restrictions on public

debt limits, monetary expansion, collateral quality and risk-accepted in central banks' balance sheets, etc., these concepts have been the basis of sustainable economic and financial policies. They are seen as the guiding compasses for small and open SEE economies from the transition to the status of developing countries and then to the EU and Euroarea membership.

The success and usefulness of the proposed changes in order to achieve the monetary policy objectives will remain to be proven in the future by the concrete results of the central banks and the empirical studies of the academy. However, this has not prevented emerging economies from being tempted to experiment with the application of unconventional policies. This can turn out to be a risky practice given that unlike advanced economies, the currencies of emerging economies are not reserve assets.

The application of these new monetary policy concepts, in the case of the Albanian economy, is mainly limited by the lack of treadable instruments in the capital markets, which would serve as collateral for quantitative easing programs. Consequently, the expansion of the central bank's balance sheet remains conditioned by the size and limited supply of the financial market. In practice, the Bank of Albania has responded to the negative shock caused by the pandemic through the immediate and strong decrease of the key interest rate of monetary policy, and the adoption of the operational policy for immediate and unlimited disposal, as well as at a minimum cost, of liquidity in the economy. At the same time, as in the rest of the world and regional practices, the implementation of monetary policy is intertwined and supported by the adaptation of the macro and microprudential policy framework. These measures have contributed not only to safeguarding the financial stability of the banking and financial system, but also to supporting monetary policy to increase credit and channel funds into the economy. As a result of these policies, the economy managed to withstand the negative effects whilst the financial markets appear relatively calm. Private sector financing costs also remain low. The exchange rate is stable and the banking sector shows good indicators of liquidity and capitalization. Nevertheless, the Bank of Albania closely follows the macroeconomic and financial developments and is willing to support the economy

if the materialization of risks would require further easing of the monetary policy stance.

REFERENCES

Bahmani-Oskooee, M., Miteza, I., Tanku, A., 2020, "Exchange rate changes and money demand in Albania: a nonlinear ARDL analysis". Economic Change and Restructuring, Jan 2020, https://doi.org/10.1007/s10644-019-09261-9

Bailey, A., Bridges, J., Harrison, R., Jones J., and Mankodi A., 2020, "The central bank balance sheet as a policy tool: past, present and future", Paper prepared for the Jackson Hole Economic Policy Symposium, 27–28 August 2020: https://www.bankofengland.co.uk/-/media/boe/files/paper/2020/the-central-bank-balance-sheet-as-a-policy-tool-past-present-and-future.

Baldwin, R., di Mauro, B.W., 2020, "Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes", 18 March 2020, A CEPR Press VoxEU.org eBook, ISBN: 978-1-912179-29-9.

Bank of Albania (2015), Monetary Policy Document 2015: https://www.bankofalbania.org/Publications/Monetary_Policy_Document.html

Bernanke, B., 2009, "The Crisis and the Policy Response", Speech at the Stamp Lecture, London School of Economics, London, England, Janar 2009: https://www.federalreserve.gov/newsevents/speech/bernanke20090113a.htm

Borio, C., and Zabai, A., 2016, "Unconventional monetary policies: a re-appraisal", BIS Working Papers No. 570.

Borio, C., Disyatat, P., and Zabai, A., 2016, "Helicopter money: The illusion of a free lunch", May 2016: https://voxeu.org/article/helicopter-money-illusion-free-lunch

Brunner, K. and Meltzer, A.H. (1973). 'Mr Hicks and the "monetarists"', Economica, vol. 40(157), pp. 44–59.

Buiter, W (2014): "The simple analytics of helicopter money: Why it works – always"; Economics, vol 8, 2014-28, Aug. 2014, DOI: org/10.5018/economics-ejournal.ja.2014-28.

Butos, W.N., 2015, "The Bernanke Fed and "Credit Easing" Policies", 2008–2014 The Journal of Private Enterprise 30(4), 2015.

Barthelemy, J., and Penalver, A., 2020, "There is nothing magic in central bank Money", SUERF Policy Briefs No 15, June 2020.

Cagan, P., 1956, "The Monetary Dynamics of Hyperinflation" in M. Friedman (ed.), Studies in the Quantity Theory of Money, Chicago: University of Chicago Press, 1956.

Curdia V. and Woodford M., 2011, "The Central Bank Balance Sheet as an Instrument of Monetary Policy", Journal of Monetary Economics, 58(1), 54-79.

D'Amico, S and Kaminska, I (2019), "Credit Easing versus Quantitative Easing: Evidence From Corporate and Government Bond Purchase Programs", Bank of England Staff Working Paper No. 825.

Danau, D., 2020, "Limits and pitfalls of QE in emerging markets", SUERF Policy Briefs No 28, September 2020.

Della Vale, G., Themeli, E., Veyrune, R., Cabezon, E., Guo, S., 2018, "The Effective Lower Bound for the Policy Rate in Euroized Economies - An Application to the Case of Albania", Bank of Albania WP 39 (78) 2018, ISBN 978-9928-262-06-6.

Draghi, M., 2012 Speech by Mario Draghi, President of the European Central Bank at the Global Investment Conference in London 26 July 2012, https://www.ecb.europa.eu/press/key/date/2012/html/sp120726.en.html

Dushku E., Shijaku, G., 2017, "The Adequacy Level of Foreign Reserve holdings: A new approach", Bank of Albania WP 27 (66), 2017, ISBN 978-9928-4359-8-9.

Eggertsson, G. and Woodford, M. (2003). "The zero bound on interest rates and optimal monetary policy", Brookings Papers on Economic Activity, vol. 1, pp. 139–211.

Fabo, B., Jančoková, M., Kempf, E., dhe Pástor L., 2020, "Fifty Shades of QE: Conflicts of Interest in Economic Research", NBER Working Paper No. 27849, September 2020.

Fisher, I. 1911. "The Purchasing Power of Money". 2nd edn, 1922. Reprinted, New York: Augustus M. Kelley, 1963.

Friedman M., 1969, "The Optimum Quantity of Money", in M. Friedman, The Optimum Quantity of Money and Other Essays, Chapter One, Adline Publishing Company, Chicago.

Friedman, M., 1970, "Counter-Revolution in Monetary Theory". Wincott Memorial Lecture, Institute of Economic Affairs, Occasional paper 33.

Friedman, M., and Schwartz, A.J., 1963. "A Monetary History of the United States, 1867–1960". Princeton: Princeton University Press for NBER.

Gagnon, J (2016), "Quantitative Easing: An Underappreciated Success", PIIE Policy Brief April, can be found at the following web address: https://www.piie.com/publications/policy-briefs/quantitative-easing-underappreciated-success

Gagnon, J., Raskin, M., Remache, J. and Sack, B. (2011). "The financial market effects of the Federal Reserve's large-scale asset purchases", International Journal of Central Banking, vol. 7(10) 2011, pp. 3–43.

Gali, J., 2020 "Helicopter money: The time is now, in Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes", ed. Baldwin, dhe di Mauro, A CEPR Press VoxEU.org eBook, ISBN: 978-1-912179-29-9.

Goodhart, C and Ashworth, J (2012), "QE: a successful start may be running into diminishing returns", Oxford Review of Economic Policy, Vol. 28, No. 4, pages 640–70.

Goodhart, C., 2020, "After Coronavirus: Deflation or Inflation?", SUERF Policy Briefs No 25, September 2020.

Greenlaw, D, Hamilton,J, Harris, J and West, K (2018), "A Skeptical View of the Impact of the Fed's Balance Sheet", National Bureau of Economic Research Working Paper No. 24687.

Haldane, A, Roberts-Sklar, M, Wieladek, T and Young, C (2016), "QE: the story so far", Bank of England Staff Working Paper No. 624, 2016.

Krugman, P., 2020, "The case for permanent stimulus, in Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes", ed. Baldwin, dhe di Mauro, A CEPR Press VoxEU.org eBook, ISBN: 978-1-912179-29-9.

Kimura, T., Kobayashi, H., Muranaga J., dhe Ugai, H., 2003, "The effect of the increase in the monetary base of Japan's economy at zero interest rates: an empirical analysis", në Monetary policy in a changing environment, 2003, vol. 19, pp 276-312, Bank for International Settlements

Luci, E., Ibrahimi, F., 2005, "A Review of Albanian Monetary Targeting Regime with insights into the Future", proceedings of the 5th Conference of the Bank of Albania, Central Banking in The Time of Integration, Bank of Albania, March 2005.

Masciandaro, D., 2020, "Shh, don't say it! ECB Helicopter Money: Economics and Politics", SUERF Policy Note Issue No 161, May 2020.

Modigliani, F. and Sutch, R.C. (1966). "Innovations in interest rate policy", American Economic Review, Papers and Proceedings, vol. 56(2), pp. 178–97.

Nagy-Mohacsi, P., 2020, "The Quiet Revolution in Emerging-Market Monetary Policy, Project Syndicate", Aug 18, 2020, https://www.project-syndicate.org/commentary/emerging-markets-unconventional-monetary-policy-by-piroska-nagy-mohacsi-1-2020-08?barrier=accesspaylog

Powell, J., 2020, New Economic Challenges and the Fed's Monetary Policy Review, fjalë mbajtur në "Navigating the Decade Ahead: Implications for Monetary Policy", Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, Aug. 2020.

Reis, R., 2019, "Central bank with the "New Normal": From Practice to Science, Monetary Policy, Economic Integration and "New Normal", the proceedings of the Annual Conference of the Bank of Albania in cooperation with the London School of Economics and Political Science (LSE), Tirana, 2019, ISBN: 978-9928-262-24-0.

Rodnyansky, A and Darmouni, O M (2017), "The Effects of Quantitative Easing on Bank Lending Behavior", The Review of Financial Studies, Vol. 30(11), pages 3,858–887.

Schnabel, I., 2020, The ECB's policy in the COVID-19 crisis – a medium-term perspective, Remarks at seminar hosted by the Florence School of Banking & Finance Frankfurt am Main, June 2020: https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200610~a16c903e5c.en.html

Sejko, G., Dushku, E., 2018, "The Economic growth for Albania: New evidence," on Studies on the Banking System and Economic Developments, Ed. Sejko, G., Bank of Albania, Tirana, 2018, ISBN 978-9928-262-11-0" (only in Albanian).

Sejko, G., 2018, "The Economic growth for Albania: New evidence," on Studies on the Banking System and Economic Developments, Ed. Sejko, G., Bank of Albania, Tirana, 2018, ISBN 978-9928-262-11-0" (only in Albanian).

Susskind, D., & Vines, D., 2020, The economics of the COVID-19 pandemic: an assessment, Oxford Review of Economic Policy, Volume 36, Issue Supplement_1, 2020, Pages S1–S13.

Shijaku, H., Ceca, K., 2012, "A model for the credit risk in Albania using banks' panel data", ed. Sejko, G., Bank of Albania, Tirana 2018, ISBN 978-9928-262-11-0.

Tanku, A., Dushku E., Ceca, K., 2017 "The Efficiency of Credit Allocation: An Application of Kernel Density Estimation on a Panel of Albanian Banking System Data, in Crisis, Credit and Resource Misallocation: Evidence from Europe during the Great Recession", CEPR eBooks, ed: Bisëajit Banerjee, B., & Coricelli, F., 2017, ISBN: 978-0-9954701-8-7.

Tanku, A., Vika, I., 2020, "What drives the real lek-euro exchange rate fluctuations", forthcoming Bank of Albania WP series.

Tischer, J (2018), "Quantitative Easing, Portfolio Rebalancing and Credit Growth: Micro Evidence from Germany", Deutsche Bundesbank Discussion Paper No 20/2018.

Tobin J., 1961, "Money, Capital, and Other Stores of Value", The American Economic Review, Vol. 51, No. 2, Papers and Proceedings of the Seventy-Third Annual Meeting of the American Economic Association (May, 1961), pp. 26- 37.

Tobin, J. (1969). 'A general equilibrium approach to monetary theory', Journal of Money, Credit and Banking, vol. 1(1), pp. 15–29.

Turner, A., 2015, "The Case for Monetary Finance – An Essentially Political Issue", Paper presented at the 16th Jacques Polak Annual Research ConferenceHosted by the International Monetary Fund, Washington, DC, November 5–6, 2015: https://www.imf.org/external/np/res/seminars/2015/arc/pdf/adair.pdf

Vika I., 2016, "Motives and Effectiveness of Forex Interventions in Albania", Bank of Albania WP 25 (64) 2016, ISBN 978-9928-4359-7-2.

Wallace, N. (1981), "A Modigliani-Miller theorem for open-market operations", American Economic Review, vol. 71, pp. 267–74.

Woodford, M. (2003), "Interest and Prices: Foundations of a Theory of Monetary Policy", Princeton NJ: Princeton University Press, ISBN 0-691-01049-8.

CHAPTER V: THE CALM BEFORE THE STORM. THE MONETARY, MACROPRUDENTIAL AND BANK SUPERVISION POLICIES ENSURED THE REINSTATEMENT OF THE MACROFINANCIAL BALANCES

I. INTRODUCTION

As it was also mentioned in the introduction, the purpose of this book is to describe and analyse the policies undertaken by the Bank of Albania in view of the pandemic, as well as explain the purposes, effects, usefulness and the coordination of these policies with respect to safeguarding the macroeconomic and financial stability in Albania. However, before rendering this description, it is necessary to discuss the prevalent economic and financial characteristics of the Albanian economy. These characteristics determine the nature, size and the coordination of measures undertaken by the Bank of Albania.

What I would like to explain is that the decision-making goes as far as it is permitted by the situation and the economic and financial stability of the country and the banking sector. To this end, we may consider ourselves "lucky" because when the pandemic hit, the monetary and financial soundness indicators provided the Bank of Albania with the necessary space to intervene with economic, financial and regulatory measures described in Chapter 1.

The favourable preconditions also enabled the functioning of the corrective mechanisms, which were put in motion to buffer the pandemic shock. If the circumstances were different, the nature and

the size of the policies undertaken to counter the pandemic, as well as their level of success would not be the same. This conclusion is not a hypothetical discussion anymore, since the economy and the financial system experienced a considerable shock as a result of the global financial crisis in 2008 and the European debt crisis in 2011-2012.

Naturally, "luck" is on the side of the interventions and reforms implemented by the BoA in order to address the consequences resulting from the global financial crisis in 2008 and the European debt crisis in the beginning of 2010. Consequently, prior to analysing the effects of the pandemic, it is necessary to first take a look at the reforms undertaken in the framework of the economic and financial policies that provided the creation of these preconditions.

This discussion is important because it helps to look through: first, some crucial characteristics that dominate the Albanian economy and their role in the choices and behaviour of the real economy and financial market; and second, because they complement and provide an understanding of the effects of the measures undertaken in the framework of the pandemic, by enriching the economic and financial mechanisms to buffer and distribute the shock and the appropriate management of the negative effects of decision-making.

After one year of the measures, the results are encouraging, showing that the mechanisms erected prior to the pandemic are functional and have played a determinant role in adequately managing the pandemic crisis; this because 18 months after the pandemic and the continuous pressure, the measurable economic and financial soundness indicators are better than 18 months following the financial shock and European debt crises.

The Albanian economy is a small and opened economy, which has entered the group of emerging economies from previously being an economy in transition. This definition typically used in research materials and analyses on the Albanian economy summarises and identifies some crucial and notable characteristics that define our economy as one that is directly and fully affected by global developments and those in our main partners.

The economic and financial events of our main partners play a significant role in the economic life of Albania, while positive and negative shocks in terms of output, prices, fiscal and financial developments do not leave marks or do not cause shocks/consequences in the global economy. Naturally, our partners respond against fluctuations, but this reaction does not leave visible traces in partner economies. Albania is located at the border of the euro area that is at the same time our main partner in commerce and investments. The euro area is the economic space where most of Albanian diaspora lives and works, which has a significant role in the economic life of the country as they send remittances, invest in real estate markets and other producing industries.

In addition to this, the main and final goal of the Albanian government, since the beginning of the transition, has been the membership in the European Community. As a consequence, all the political, social, economic, legislative, and institutional reforms are led by this goal. Under these conditions, it is natural that any change or economic, social, and institutional shock originating from the EU and the euro area has a direct impact not just on economy and finance, but also on all the aspects of life in our country.

Given all the reasons described above, the currency inflows in euro are multifaceted and considerable. First, our trade of goods and services is dominated by the euro area, in both exports and imports. Second, the Albanian immigrants and diaspora play a significant role in financing production expenses and investments. Third, the euro area plays a crucial role as a direct investor in Albania.

Consequently, the euro holds an important part in the Albanian economy as a means of savings, investments, value holder, and a payment instrument in durable goods and real estate transactions. The Albanian economy has a high degree of euroization in both financial assets and liabilities also due to the fear inherited from frequent and large fluctuation in the value of lek during the first stage of transition, as well as the financial intermediation and nature in Albania during the second stage of transition.

The Albanian economy shares the above characteristics with all the other economies in transition where trade, financial systems and

foreign investment were dominated mainly by the European partners. After the economic collapse of the nineties, the need of economies in transition for investments and recovery of production and domestic demand was huge. The shift from centralised economy to market economy was accompanied by the re-allocation of resources across the economic sectors, which coupled with the opening of current accounts and later capital accounts (the free movement of goods, services, capital, and technology) were conducive to an increase in production and the need for investments by foreign partners, banks and financial groups, coming mainly from Europe.

The high level of capital flow, remittances, financial aid, and loans played a role in the growth of the economy, but concurrently enabled and encouraged the channelling of the expansionary policies of the euro area and other central banks of the region. In search of a high capital return, reflected by the differentiation of interest rates with the euro area (as a result of low interest rates in advanced economies and consequently global markets), the ample capital in global markets was channelled to in-transition economies through the banking system, which was dominated by foreign financial groups.

This foreign currency capital intermediated in the market of these countries in the form of foreign currency loans, which were favoured against loans granted in domestic currency, since interest rates on euro were lower than interest rates on domestic currency. As long as this difference persisted, the inflow of capital and financial intermediation in foreign currency engendered the growth in economy, consumption and investments in economies in transition.

The Global Financial Crisis (GFC) in 2008 brought this model to an end and caused a considerable shock in the economies of the region. This crisis and the following debt crisis in 2010-2011, put the euro area, and particularly our partners within it (Greece and Italy), in difficulties, by suspending the inflow of capital, halting financial intermediation and lowering remittances.

All these factors together were a huge blow to consumption, savings, investments and the Gross Domestic Product, both current and potential. The suspension of capital inflows and the increase of

outflows brought about the devaluation of domestic currency. This depreciation coupled with lower economic activity caused an increase in debt burden for households and enterprises, who found it difficult to repay their debts (major part of which was in foreign currency (euro) and unhedged) to banks, thus increasing non-performing loans (NPL), which put further pressure on banks' balance sheets. Losses from failure of loan re-payments would have to be covered through the banks' funds (from capital), causing capital erosion. Faced with more burdensome balance sheets due to NPLs and inadequate capital, banks stopped lending to the economy causing shocks to investments and GDP in the second stage.

Although the origin of the initial shock may be attributed to the global crisis, economies in transition faced a crisis which was internal. The global and debt crises exposed the vulnerability and issues of the economic strategies of the performance of undeveloped markets (restricted and shallow) of capital and those non-functional of goods and services.

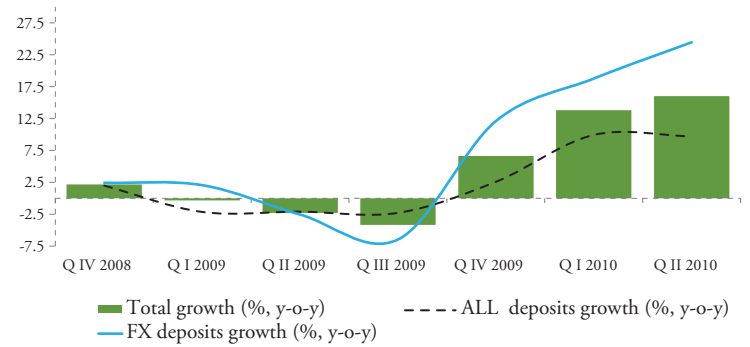
In parallel, they identified the disequilibrium observed in instruments and maturities between financial assets and liabilities in the private sector's balance sheets, the erroneous decision-making and the financial illiteracy of the private sector and households. These issues may be clearly and notably illustrated in the case of the Albanian economy, which in contrast with other economies, had not supported the rapid financial intermediation in foreign capital flows from global markets.

In comparison with other countries, financial intermediation in lek, and the euro or the US dollar relied on deposits of the Albanian banking system. The euroization of deposits enabled the necessary funds to increase lending in foreign currency. Concurrently, the desire to benefit from low-interest-rate loans engendered borrowing in euro against that in lek. As a result, at the end-2008 global crisis, around 75% of the private sector's loan stock was in euro, whereas the borrowers' income was mainly in lek.

Right before the crisis, financial liabilities were euroized more than deposits due to the quick financial intermediation process. This process that turns deposits into loans, which after the disbursement

are transformed into deposits (the issued loans are used to purchase goods and services by passing from borrowers' hands/accounts to seller's hands/register or accounts and from there to his deposits) and the latter into new loans in a repeated cycle, constituted one of the main causes of the euroization of assets in the banking system's balance sheet and of liabilities in the balance sheets of of both private sector and households. When the crises erupted due to the panic caused by its consequences experienced in Greece and Italy, the public reacted by withdrawing the foreign currency deposits from the banking system (Figure 1).

Figure 1 Performance of deposits in Albania after GFC



Source: Bank of Albania.

These withdrawals reduced the funds available for loans and, consequently, the market supply of currency also fell, inciting lek depreciation in the domestic market and, concurrently, the suspension of the financial intermediation cycle and the considerable deceleration of bank lending growth. As a result, consumption and investments experienced a reduction engendering a decline in the economic activity. The latter caused an income decline, which coupled with the effects that lek depreciation had on increasing the burden in foreign currency debt (while the borrowers' income was in lek) rendered loan payment, difficult. Thus, households' problems became the problems of the financial system itself.

But the consequences appeared not solely due to the euroisation. Lacking efficient markets, the expansion of the financial

intermediation prior to the GFK drove economic growth based on the rapid increase of credit (absorption growth model), supporting mostly the sector of construction and real estate and less the sectors of production and trade. This was another issue of internal developments that affected the deterioration of the negative effects of the crisis, deepening it. Studies by Sejko et al. (2018) find that the sectoral allocation of credit did respond to neither the growth potential nor the risk of failure of credited sectors. Consequently, credit distribution by sectors is inefficient.

In fact, some of the banks had entered the market without conducting sufficient research, but solely in accordance with the theory of location[1], based on which it is imperative that a bank is established and expands in the markets and instruments where its competitors are established or located in the parent market. Therefore, following their competitors in the stage of a rapid expansion in the European groups in the CSEE region, many banks entered the region and Albania without sufficient knowledge on the market and its adaptation to their goals. Empirical studies provide prove regarding the structure of the banking market, such as: Shijaku (2018), Note (2006), etc. The GFC and the challenges it engendered in parent markets (taking into account the EU) brought these driven strategies to the fore and, consequently, shifted the attention of these banks away from the region.

Furthermore, a set of legal, institutional, and regulatory changes in the euro area rendered the business model and the presence of such banks in the region, costly (consequently inadequate). While perceiving the aspiring emerging economies in the region as high risk economies, the supervisory authorities in Europe imposed additional regulatory requirements on capital and liquidity for the European banks operating in the region, rendering their activity even more costly.

Consequently, their interest and ability to finance and financially intermediate the economies of the region declined, hence strengthening the reasons of their withdrawal from these countries. Moreover, while faced with difficulties to fulfil the regulatory

[1] *Location theory in English.*

requirements on capital growth[2] to cover the risk of lending in the region, banks chose to reduce credit (to the economy and the government), inciting capital and foreign currency outflows.

These measures affected also the economies which had not benefited from capital inflows prior to the GFC, such as was the case of Albania. We can mention the case of Raiffeisen Bank Albania (RBA), one of the largest funder of the government debt, which reduced the exposure against this debt in 2012, by lowering T-bill purchases by 42.6% (from 2.4% of the GDP, to 1.3% of the GDP) and securities investments by 14.7% (from 5.7% to 4.7% of the GDP), compared with 2011 (RBA, 2012).

To summarise the above, at this moment the crisis has halted financial intermediation and heightened debt burden through this depreciation, as well as caused a deterioration of the balance sheet of households and enterprises and then banks, by suspending lending and negatively impacting the economic activity and damaging the soundness of the banking system in the form of a maelstrom. As a result, at the end of 2015, the Bank of Albania assessed that the potential of economic growth had fallen from over 5% to around 3% (Çeliku et al., 2018), inflation had remained below the target and non-performing loans were up to 25%, damaging the banking soundness indicators. For more information, refer to Table 1, which presents a summary of these indicators in the periods prior and after the GFC.

Table 1 Main macroeconomic indicators prior and past GFC

	2003-2009	2010-2015	2016-2019
Potential growth (%)	5.8	2.9	3.6
Inflation (%)	2.65	2.43	1.7
Non-performing loans (%)	4.6	19.9	13
Business Soundness Indicator (BSI)*	0.46	0.54	

**For more information on this indicator, refer to Bode, A. (2016), "Banking Soundness Index: Approach at the individual banks' level."*
Source: Bank of Albania.

To respond to these issues, the monetary policy and financial stability undertook a series of measures to re-establish the sustained euilibriums in the economy and the banking and financial system.

[2] *Capital growth is quite costly when undergoing a crisis.*

As it is clearly defined in Chapters 2 and 3, these measures interacted with each other and, furthermore, this interaction could have been in opposite directions. More concretely, given the conditions of the real inflation indicators and the GDP, the monetary policy required expansion through decreasing the interest rate and reinvigorating the financial intermediation and credit, as an instrument to increase aggregate demand through consumption and investments. The higher aggregate demand would entail an increase in prices toward the BoA's objective.

Meanwhile, the potential adverse effects of this policy consisted in the depreciation of lek against euro, which would boost the competitiveness of Albanian exports. On the other hand, financial stability policies required a decrease in non-performing loans and an attentive increase in new loans, while, according to empirical studies, the exchange rate depreciation would damage the financial soundness indicators affected by the GFC. At the same time, the increase in non-performing loans does not justify the increase of credit form the banking system stability viewpoint.

The continuous monetary accommodation, materialised through the continuous decrease of policy rate, in order to achieve the price stability objective, interferes with the macroprudential policy objective, i.e., financial stability, since it could lower banks' profitability rates. The decrease in the interest rate affects the interest rates for all maturities and instruments of the financial market, causing a negative effect in income ensured by interests. In this manner, the accommodative monetary policy had a secondary negative impact in the banks' balance sheet and financial soundness indicators.

The conclusions derived from Chapters 2 and 3 require that under the effect of stability, the monetary policy rate would increase, not decrease. Other studies of the Bank of Albania[3] find that negative effects of the banking system income are asymmetrical, placing a heavier barrier on smaller banks, which are more vulnerable toward the continuous easing of monetary policy, experiencing a higher

[3] *See Papavangjeli et. Al., (2017).*

decrease in profit/interest margin compared with larger banks[4].

By taking into consideration the fact that the macro-financial situation of the economy had put the monetary and the financial stability policies in front of each other, the Bank of Albania undertook a set of macroprudential measures that attempted at finding a close equilibrium between the increase of the lending activity to boost the economy, without damaging the financial soundness indicators. In order to achieve this equilibrium, the macroprudential policies predicted the temporary suspension of the regulatory requirements on capitalisation in order to increase credit within the 4-10% interval. To put it simply, this meant that banks would not be "penalised" for increasing the lending activity within the specified interval. This was done to reach a medium ground. Despite the positive effects of this policy at the beginning of 2015, the economic and banking soundness indicators did not show sufficient improvement to solve at least one of the problems. As a general conclusion, the expansionary policy of the Bank of Albania spilled over to all market rates and maturities, but this did not sufficiently aid the financial intermediation, which remains phlegmatic[5].

Table 2 Main indicators of financial intermediation

	2010-2015	2016-2017
Credit growth (%)	8.8	3.2
Deposit growth (%)	5.8	0.2
Non-performing loans (%)	19.9	18

Source: Bank of Albania.

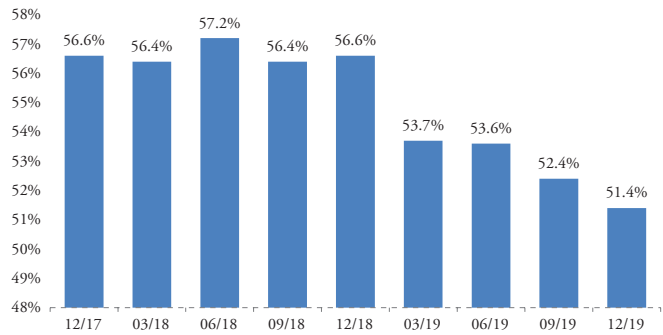
As shown by the results derived from the research conducted by Sejko and Dushku (2018) and Vika and Suljoti (2018), it was precisely this factor (the low financial intermediation, in other words the limited credit growth) that impeded the monetary policy transmission to the economy, and thus obstructing the price objective and economic activity growth.

---

[4] *Dividing banks into small, medium and large is a conventional categorisation used by the Bank of Albania, according to which: small banks have assets which account for up to 2% of total assets of the banking sector; medium banks are considered those with a share bigger than 2% and smaller than 7%; while large banks account for the largest share of 7%.*

[5] *For a more detailed information on these measures refer to annual reports of the BoA, concretely those of 2013, pg. 29; 2014, pg. 51-52; 2015, pg. 33, 55; 2016, pg. 49-50;*

Figure 2 Foreign currency loans ratio to total loans in the banking system



Source: Bank of Albania.

The Bank of Albania's assessements show that financial stability issues, which had become a problem for expansionary monetary policy transmission to the economy, were linked with the structural defects of the market and institutional or legal obstructions outside the jurisdiction of the Bank of Albania, which hindered the functioning of market mechanisms that provided a quick and efficient resolve to issues of financial system stability.[6] Consequently, the BoA's focus shifted to solving these defects and obstructions. Since the issue stemmed from outside the BoA's jurisdiction, drafting and implementing the set of proposed measures required the institutional engagement and coordination of the government, judicial system, the financial market, and the international financial institutions.

All the set of measures that resulted from this process enabled a new perspective on the problem and proposed a multifaceted solution that was coined "Tirana Approach" and which resulted in a successful resolution. At the end of the process, the undertaken measures eased the issues related to the financial system soundness, revivified the financial intermediation in lek, allowing the transmission of the monetary policy to the economy (as illustrated in Tables 1 and

[6] *For a more thorough description and empirical analysis on the method and effects of the institutional hiccup which hindered the banks' attempt to resolve the non-performing loans problem and as a result the transmission of the monetary policy to the economy, you may refer to Sejko, Tanku, Dushku and Ceca (2018).*

2). I would later stop and dedicate more time to this, in order to expand the explanation on the nature of the measures enacted in the framework of "Tirana Approach," and comprehend the solution mechanism provided for the elimination of defects and obstructions to financial intermediation.

The plan for solving the issue with non-performing loans (NPLs)

The above analysis clearly shows that the monetary policy transmission from the interest rates in the economy warrants a reduction in non-performing loans. The clean-up of banks' balance sheets would enable the improvement of capitalisation and risk indicators, not solely from the regulatory limitation standpoint, but also from that of banks' desire to support the economy with credit. Bank of Albania's analysis shows that the issue regarding NPLs extended beyond the financial market. Under normal circumstances, resolving the NPLs issue means a reduction in their level, and this could be realised by the reclassification of loans in:

- standard loans, i.e., given the new economic and financial conditions companies, which could not honour their loans, are now provided with the opportunity to do so and restart making regular instalment payments;

- restructuring these loans, as if starting from scratch, by extending the time frame or undertaking other reorganisations, which allow for the repayment of affordable instalments from borrowers that are unable to pay;

- last, in adverse scenario, reclassification of this these loans as lost loans, meaning that starting the procedure to execute collateral and withstand losses using provisioning funds.

As it is understood, the latter process is regulated by the legislation in force and includes other key institutions as well, such as: judicial, fiscal authorities, and bailiffs. Consequently, finding a real and stable solution on the issue of non-performing loans could not come only from the Bank of Albania, but through the cooperation and coordination among all these institutions.

This cooperation was materialised when drafting the Platform for Addressing Non-performing Loans as a set of legal, regulatory, and institutional changes under the auspices of *"Tirana Approach."* A more thorough history on the attempts and measures undertaken by the Bank of Albania for erecting this cooperation, which aimed to find a stable solution for non-performing loans, is referred to in the Annual Supervisory Report of BoA[7].

The concern expressed by the Bank of Albania regarding NPLs attracted also the attention of Albanian lawmakers and the government, which took to drafting a comprehensive strategy in order to resolve this issue. This strategy aims to improve the legal environment (the law on the bankruptcy and restructuring of private bailiffs was amended, changes were enacted in the law "On income taxation", with a view to ease the written off process of lost loans from the balance sheet;) and the regulatory one (stricter standards were imposed by banks on granting of loans, internal risk requirements were strengthened, the approval of regulation on out-of-court handling by banks of borrowers in financial difficulties); the improvement of the infrastructure of credit support (improvement of credit registry). Also, the attempts of the banking sector's reforms in Albania focused on the measures that aimed to diminish non-performing loans, by witting off these loans from banks' balance sheets and enacting credit restructuring operations.

Since the beginning of 2015, when banks started to write off loans classified as lost for over three years, an amount of ALL 57.4 billion was written off as lost loans from banks' balance sheets. The write offs amount has significantly declined over the last years, reflecting the reduction of lost loans classified as such for a period longer during three years. For the first time in the last 10 years, the non-performing loans ratio fell to a single digit level, reaching 8.37% at the end of 2019.

The process of write off was deemed necessary to further decrease the ratio of non-performing loans and to release resources that banks

[7] *For more detailed information on these measures refer to the Annual Supervisory Reports of the BoA, specifically from 2013, pg. 17-18; 2015, pg. 10; 2017, pg. 9.*

may put to better use for crediting the economy. In this framework, the Bank of Albania has approved a regulatory change, according to which banks will write off from their balance sheets lost loans classified as such for longer than two years. By efficiently addressing the issue of non-performing loans, including their write offs, the bank may allocate its productive resources to new lending, instead of becoming a company which manages "bad assets."

Second, while the main goal was to liquidate assets with a low probability of being paid off by borrowers, non-performing loan write off usually brings about a decline in the banks' non-performing loans ratio. Third, write off of non-performing loans does not have a negative effect in the financial statements, whereas loans are entirely provisioned and losses are registered already on the Profit and Loss Statement. Fourth, a fall in the ratio of non-performing loans improves the evaluation of an agency that conducts credit risk assessment of banks or the overall financial system.

Furthermore, a series of other changes helped to ease this process, through the effect they had in strengthening the regulation and supervision of the internal financial sector, such as:

- setting up the Financial Stability Advice Group, as a general coordinator of macroprudential policies;
- approving supervision based on risk and accelerating the attempts to implement Basel II/III standards to the entire banking sector;
- approximating the regulatory framework of banks with the standards of the European System of Central Banks, in order to minimises differences in the risk approach among welcoming countries and to enhance the international cooperation;
- approving a law on bank demerger and the fund for banks demerger, where BoA takes the role of the authority conducting the demerging of banks;
- approving a new law on the Financial Supervision Authority, expanding its objective, instruments and independence; and
- improving the Deposit Insurance Agency, by establishing credit lines with the EBRD, enhancing thus its liquidity position.

Although, after undertaking these measures, the level of non-performing loans has fallen significantly compared with the levels registered after the global financial crisis and the euro area crisis, it is still high, necessitating further reforming efforts that aim to reduce NPLs even more. Any reversal in the downward trend of these loans or possible deterioration of the quality of other assets may cause banks to be out of track with the regulatory requirements in force, such as capital adequacy requirements, as well as result in lowering the lending activities of banks.

In parallel, progress is realised also as regards the determination and operationalisation of the macroprudential policy instruments. Upon the approval of the Regulation No. 41 "On macroprudential capital buffers," BoA supports the use of some capital buffers for commercial banks, according to some relevant methodologies expounded on the Regulation. In addition to this, it provides specificities related to instruments upon which capital buffers will be adopted, the frequency of evaluation for their specification, the banks' reporting period and the actions necessary in case the level of the macroprudential capital buffer is not satisfied.

To conclude this part, it is important to emphasize that the NPL's reduction enabled the accommodative policies during the pandemic. On the contrary, it would have been quite challenging and maybe risky to undertake the measures enacted during the pandemic, where the NPL's level reached 25% and the balance sheets of banks and the private sector assumed a heavy weight. Thus, there were benefits regarding stability as well as the positive reaction of banks and the private sector. Under other circumstances, this reaction would not have been so positive and free of risks.

II. BANKING SYSTEM CONSOLIDATION

As a result of existing inefficiencies, the banking system in Albania has experienced a consolidation process over the past few years. The number of banks operating in Albania at the end of 2019 fell to 12, from 16 in 2017, transferring the origin of the banking capital to the domestic ownership. Up to the end of 2019, four banks that account

for 29% of the banking system were owned domestically. The results show that given these consolidating processes, banking activity has continued to expand. At the end of 2019, total banking system assets were around 1.5% higher than in the previous year.

The partial euroization of the banking system balance sheet and the slight revaluation of the domestic currency in 2019, have had a negative effect on the banking intermediation growth rate, which is measured in assets. After the calculation of the exchange rate effect, banking system's total assets expanded by around 2.2%.

Following these consolidating processes, the financial system activity is characterised by a stable environment and the main banking system's performance indicators in Albania, have been improving. The capital adequacy ratio was 18.3% at the end of 2019, up by 0.4 percentage points from 2018, and significantly over the required minimum of 12%.

The liquid assets to short-term liabilities ratio was 49.4% at the end of 2019, up by 3.2 percentage points from the previous year, and over twice as much than the regulatory minimum of 20%. Two profitability indicators, RoA 1.4% and RoE 13.4% in 2019, were slightly higher than in 2018. The non-performing loans ratio (to credit stock) fell by 2.7% compared to the previous year, reaching 8.4% at the end of 2019. The capital adequacy and banking soundness indicators give out satisfactory signals in relation to the financial stability of the banking system regarding capitalisation, liquidity and assets' quality. The prudential supervision and monitoring of the banking system performance and the intensive and continuous communication with it have served to maintaining a liquid and well-capitalised system with sound practices for risks management.

III. NATIONAL DE-EUROIZATION STRATEGY[8]

The discussions above, as well as the discussions rendered in previous

[8] *This strategy has been laid out in the Memorandum of Cooperation drafted between the Ministry of Finances (MF), Bank of Albania (BoA) and the Financial Supervision Authority (FSA) in April 2017.*

chapters, clearly demonstrate that the euroization, particularly the one driven by the financial intermediation process, is one of the main reasons behind the problems identified in the post-GFC period. The euroization coupled with the exchange rate fluctuation make up a guaranteed recipe for exacerbating the balance sheets of the private sector, which consequently increases the NPLs and deteriorates the financial soundness indicators. This euroization becomes also a significant obstacle to the monetary policy transmission, because it is natural that the monetary policy affects only loans in lek than those in foreign currency. The euroization also minimizes the role of the exchange rate as an automatic stabiliser in the case of macroeconomic shocks.

Consequently, in order to address these issues the Bank of Albania aims to reduce the level of the euroization in the economy. The issues springing from a high-level use of euro in the financial sector and the overall economy, in relation to the efficiency of central bank policies and the banking system soundness, pushed the BoA to draft a de-euroization policy in order to improve the transmission of monetary policy and reduce the risk towards financial stability.

As was the case with the plan of credit resolution, BoA required the cooperation of other important authorities in this field, such as: the Ministry of Finances and Economy and the Financial Supervision Authority to implement this strategy. This due to the fact that as it may be recalled, the euroization of the Albanian economy is not driven by financial factors alone, but first and foremost by real factors, since households and enterprises in Albania generate considerable funds or revenues in euro, through exports and remittances.

The measures undertaken in regards to this process, aim to render the financial activity and intermediation in foreign currency more expensive for the banking system and less preferred for the market (households and private sector), through directly or indirectly increasing the costs. The expected result is a heightened intermediation in lek and, consequently, a monetary policy efficacy, too. Concurrently, the de-euroization policy aims to reduce borrowing in foreign currency and increase borrowers' awareness on the risk associated with foreign currency activity. In this context,

this process provides a valuable contribution in reducing the risks associated with financial stability.

For the untrained and uninformed eye, the de-euroization process, at first sight, may appear as a counter-intuitive decision. As was highlighted at the beginning of this chapter, Albania is a tightly interconnected economy through economic and financial, political and institutional processes, which aim at the end to grant Albania membership in the EU and eventually the euro area.

If we consider this viewpoint alone, maybe it appears natural for Albania to adopt the euro as its currency, instead of Lek. This conclusion has been mentioned quite often; the experts of economy and finance have also raised this issue on specific occasions. However, the theoretical and practical discussion from the economic and monetary angle provides the conclusion that euro adoption is generally uncalled for and without apparent benefits to the Albanian economy. Furthermore, this process does not bring any advantage from the institutional angle of the integration process, which clearly states that the ECB and the euro area do not support the unilateral adoption of euro.[9]

Since this viewpoint may also be present among the general population, and may as a consequence become one of the significant factors in supporting the euroisation phenomenon in the economy, it is imperative that I take a short break and explain the reason why Euro adoption is neither a good nor a wise policy.

Why the euro should not be adopted?

The theoretical (but also the practical) argument mostly used for the adoption of Euro or another foreign currency, is related to monetary authorities' need to increase credibility and gain public's trust - since the adoption of the Euro signifies that the monetary supply/ the size of money in the economy is determined by the size of euro in the economy. This is a guarantee that prevents authorities from following erroneous policies based on money printing.

[9] *The following analysis discusses all monetary systems that despite the direct adoption or non-adoption of euro, have similar characteristics through the adoption of the fixed exchange rate regime.*

However, practice has shown that this solution is not a panacea, since disregarding the necessary fiscal, monetary and financial restrictions, which accompany the monetary system supported by foreign currency, has caused various distortions and unbalances in the economy that have resulted in economic and financial crises. As a result, some countries have been forced to reintroduce the flexible exchange rate regime, renaming the domestic currency which was naturally depreciated. This phenomenon can be illustrated by the case of Argentina in 2002, which showed that no "currency board management" is a guarantee for success. Another illustration of current days is the case of contingency plans drafted by Greece to reintroduce Drachma as a solution to the crisis.

Another important reason to adopt foreign currency is the existence of the "Optimum currency area (OCA)" which signifies full compliance between the cycles of finance and enterprises with those of the economy of the adopted currency. In this case, the monetary policy of the Fed and the ECB, for example, equally and simultaneously serves the economy that has adopted the US dollar or euro, as well.

One of the main issues of adopting foreign currency is that the country losses its ability to carry out an independent monetary policy even when it is required to intervene as the "lender of last resource (LoR)" to remove the obstacle. This restriction, known in the economy as "the impossible trinity," springs from the fact that in the economy there cannot be the simultaneous presence of a fixed exchange rate regime, the liberalisation of current and financial transactions, and an independent monetary policy.

Currently, 13 countries in the Central, Southern and South-eastern Europe, including Albania, claim to follow de jure a free exchange rate regime. Whereas 9 countries (from 22) have rejected the free exchange rate regime, by adopting unilateral euroization, the "currency board" regime, or by becoming part of the Euro area.

The adoption of the fixed exchange rate regime or unilateral euroization in some countries of the Balkan and Baltic countries, has flowed "naturally" due to the lack of institutional capacities to issue domestic currency immediately after the declaration of independence

(from the Soviet Union or former Yugoslavia), and concurrently from the consecutive failure of trying to control hyperinflation and stabilise the economic activity at the beginning of the transition.

In contrast to these events, when domestic currency is trustworthy, authorities are credible and the monetary policy is responsible, choosing the domestic currency with a free exchange rate regime is preferred. In this case, the free exchange rate plays the role of the automatic buffer in the economy, where real shocks (in employment, production etc.) or temporary unbalances in the external balance sheet would be cushioned by changes in currency value and not directly by wages, employment, and the behaviour of expenses/ investments in the economy.

As regards Albania, the above-mentioned conditions necessarily engender the choice towards a free exchange rate regime. The domestic currency operates in the economy since almost a century ago, and its purchasing power is stable when compared with the performance of other currencies in Eastern Europe. The structural reforms and economic policies carried out during the transition period were successful in stabilising the economy and finances of Albania. Also, the Albanian lek did not lose its trust even during high negative pressures exerted by the global financial crisis and the sovereign debt crisis in the Euro area. Due to this, lek and the monetary policy of the central bank enjoy a satisfactory public trust.

Furthermore, the cycles of enterprises and the real, financial, and fiscal convergence, show that the Albanian economy still remains away from convergence in terms of productivity, the physical, financial and human accumulation, technology, infrastructure etc. Also, we are outside the financial system of the euro area in terms of SSM supervision[10] and the SRM protection from crises[11]. In other words, Albania is not ready to create an optimal currency area[12] with the euro area. Under these conditions, instead of helping out, the adoption of euro may cause more fluctuations and, in extreme cases, significant

[10] *Single Supervisory Mechanism refers to the banking supervision system in Europe and consists of the ECB and the Supervisory national authorities of Member States.*

[11] *Single Resolution Mechanism is a central institutions that resolves issues of theEU banks and is one of the pillars of the banking union.*

[12] *The original term: optimal currency area.*

economic and financial crises, as was the case of Greece, Spain, and Portugal, which had considerable differences in the institutional, fiscal, and financial aspect with the rest of the euro area.

To conclude, there is currently no reason identified that would require or favour the adoption of the euro or the relation of lek with it somehow; on the contrary, this initiative may end up being rushed and potentially problematic when lek is stable, inflation is low and the monetary policy remains, overall, effective. In addition, the unilateral euro adoption would be against the ECB recommendations and the institutional process of the European integration.[13]

Consequently, the de-euroization process is also supported by the European Union structures and the European Central Bank. This case is valid not only for Albania, but for some regional countries as well.

In the preceding discussion on the significance of the presence of the domestic currency and its role in relation to Euro, the reader finds not just the justification, but also the necessary understanding to return to the discussion on the de-euroisation process. In order to fulfil this objective, the Bank of Albania proposed a series of measures in the form of a de-euroisation strategy, which aimed at increasing the use of domestic currency when determining prices and trading assets, as well as encouraging the public and economic agents to increase the use of domestic currency for their transactions through increasing the cost of financial intermediation and interaction in euro against that of lek.

These measures consist of increasing the mandatory reserve ratio for liabilities in foreign currency against decreasing this ratio for liabilities in lek in the banking sector. Concretely, the changes consist of the following: if the previous mandatory reserve ratios did not differ from currency to currency, where a fixed rate of 10% for both domestic

[13] *As you will become acquainted further in the book, BoA's empirical studies suggest that exchange rate fluctuations spring mainly from the real economy. The results of this work show that domestic demand and supply in the economy explain 56% and16% of fluctuations, respectively. Meanwhile nominal shocks explain only 26% of fluctuations in the real exchange rate against euro. The domination of real factors suggest that the exchange rate plays more of a stabilising role in the Albanian economy, and the benefits from domestic currency and the free exchange rate regime are quite high.*

currency as well as foreign currency deposits was implemented; new measures determine that the mandatory reserve ratio for deposits in foreign currency has increased by 12.5%, when they account for 50% of the total and 20% when they account for over 50% of the total, whereas the ratio for domestic currency deposits has fallen to 7.5% for liabilities in lek with a maturity not exceeding 12 months, and 5% for liabilities in lek that have an initial term longer than 12 months and up to 2 years.

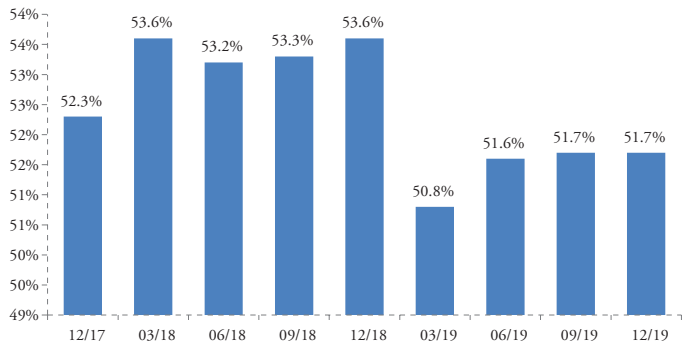
These measures are expected to have two main effects in slowing down the process of euroization. First, by increasing the size of reserves held, the BoA decelerates the process of "multiplication" of the euro money, in other words, if previously for every 100 euro, 10 went to reserves and 90 to credit, with the new measures implemented, credit may increase only 87.5 or 80 euro for every 100 euro deposited. Naturally, the measures have an adverse positive effect to the increase of credit and the "multiplication" of money in lek. Second, by holding more reserves income from the use/activity in euro is reduced because a sum in euro (concretely 12.5 or 20 for every 100 euro compared to 10 with the previous regulation) is not used to generate income, but it is held in reserves.

In addition, higher regulatory requirements were imposed on liquidity indicators in foreign currency. To manage the risk of liquidity more carefully, higher liquidity ratios were designated for operations in foreign currency. The minimal regulatory ratio of liquid assets against short-term foreign currency liabilities increased by 5 percentage points, reaching 20%, while the ratio of liquid assets in lek maintained the level of 15%. All of the measures on mandatory reserves ratio and liquidity indicators render the intermediation in euro more costly.

Further, transparency requirements were presented on lending in foreign currency for unhedged borrowers, in order to help them take better informed and mature decisions. Meanwhile, together with other institutions in the country, BoA is analysing other policies in order to reduce the use of euro as a means of exchange, by increasing the awareness of economic agents on the risks stemming from borrowing in foreign currency.

A higher awareness of banks and their clients on the risks that accompany the unjustified activity in foreign currency, and the concrete regulatory measures, are accompanied by an increase of preference for the use of the domestic currency in both sides of the banking sector's balance sheet, as it may be observed in the following figures. Thus, the share of loans in foreign currency to total loans fell from 58.8% in 2016, to 51.4% in 2019; while deposits in foreign currency to total customers' deposits fell at 51.7%, from 53. % in 2016.

Figure 3 Foreign currency deposit ratio to total deposits in the banking system



Source: Bank of Albania.

IV. THE STRATEGY OF THE OPTIMUM FOREIGN CURRENCY RESERVES AND THE ADOPTION OF MARKET INTERVENTION AS A MONETARY POLICY INSTRUMENT

On the other hand, the regulatory changes in the EU caused a deleveraging shock (the reduction of the financial lever) to the Albanian economy, encouraging the Bank of Albania to better manage the foreign currency reserves, not just to cover short-term debt but to also serve as a shield against the external risks on financial stability. It has raised the current level of foreign currency reserves, adequate to cover at least 9 months of imports (in 2020) of goods and services.

At the same period, taking advantage of the analysis on the developments following the global financial crisis, the Bank of Albania carried out a series of other measures, which are related to the monetary policy decision-making and financial stability, form the external sector angle of the economy. First, the BoA decided to increase the level of foreign currency reserves to guarantee the support of the financial system in necessary cases and to eliminate any uncertainty or panic that might emerge in the market.

Second, the BoA enacted a series of measures to eradicate the negative effects of the external sector developments (read foreign prices) on achieving the consumer price target, as the monetary policy is close to the lower limit of zero.[14] These measures were reflected directly and indirectly in the foreign currency reserves of the Bank of Albania and the measure and intervention of BoA in the foreign exchange market in the service of these goals.

I. The optimum level of foreign exchange reserves at the Bank of Albania

One of the immediate and significant effects of the global financial crisis on the Albanian economy was depositors' uncertainty and other negative effects experienced by them. Due to the extreme events experienced in Greece and Italy, a significant part of depositors went to banks to withdraw their deposits.

This was an erroneous misstep of depositors who acted in haste, also due to the panic created in neighbouring countries, while the Albanian banking system did not face any difficulties or a direct blow from the global crisis or the sovereign debt one.

In spite of this, the withdrawal of deposits rendered the banking system activity more difficult, putting the liquidity situation, particularly the one related to foreign currency, under stress. In parallel, it is wise to recall that around 50% of deposits in the Albanian banking system were represented by foreign currency deposits, mainly in euro. Liquidity stress caused two adverse reactions, which were negative and immediate. The immediate

[14] *For more information on the "zero lower limit" concept, refer to Chapter 4 and Chapter 6.*

suspension of credit in foreign currency and a higher exchange rate in the foreign exchange market were caused by the increased demand for foreign currency. Therefore, panic concurrently affected both the monetary policy as well as the financial stability situation. It was exactly this phenomenon that became the main event and channel that transmitted the global financial crisis to the Albanian economy. Consequently, one of the lessons derived from this episode is that the central bank, in our case the Bank of Albania, must be capable to play its role of "the lender of last resort" [15] not just for domestic currency but also for foreign currencies, in extreme cases, when the banking system is in need.

Up to this moment, the foreign currency reserves at the Bank of Albania were built to cover the economy's need to face external trade emergencies expressed in monthly imports. Based on the analysis and research[16] of the Bank of Albania, after this crisis, the Bank of Albania decided to change the concept of calculating and constructing the foreign currency reserves to go from the level needed to cover the demands of foreign trade to the optimal level, which requires foreign currency reserves to cover also for the financial stability issues in the country, keeping in mind foreign currency liabilities of the banking system (important for a euroized economy) and short-term foreign debt ones. Consequently, in 2017, the Bank of Albania adapted the concept of optimal reserves and increased the foreign currency reserves due to the following reasons:

- to cover the level of the short-term external debt (at an amount of around 260% in 2020 (BoA, 2021);
- to weather the financial stress situation (cover deposit withdrawals).

Both reasons listed above are a result of the negative experience of the post-GFC period. Reserve purchasing was created as an instrument to lower risk perceptions (premia) engendered by foreign currency outflows from the banking system or the Albanian economy,

[15] *The original term in literature is "lender of last resort."*

[16] *Dushku and Shijaku (2017) assess that the actual level of foreign currency reserves in Albania has been very close to the level needed to face current account emergencies, but far from their optimal level when reserves are needed to cover 50% or the entire total of deposits in foreign currency, that might be withdrawn from the banking system in periods of crisis.*

increasing security and eradicating panic. As a result of all these measures, the Bank of Albania accumulated a considerable level of foreign currency reserves, thus providing the public and partners with reassurance and security, and eliminating the panic that could have accompanied the decision-making of the pandemic measures. In other words, the pandemic measures were supported by adequate reserves and the necessary instruments to intervene in the market as needed.

The effect of reserve purchases was twofold: first, it increases the trust on the economy and the banking system, meaning that deposits and short-term debt are safe (and the government will not default) and consequently it eliminates the adverse events from the system (since the system contains a lot of Treasury bills and securities in its assets) and second, it has an overall positive effect since it increases the issuance of money through increasing net foreign currency assets. This case is treated more thoroughly in the next chapter.

II. Interventions in the foreign exchange market as a monetary policy

In the fall of 2018, the Bank of Albania conducted an important change to the instruments of monetary policy implementation. By means of the decision of the Supervisory Council, the Bank of Albania expanded the instrument portfolio of monetary policy implementation in order to also include interventions in the foreign exchange market when the policy rate is close to or at level zero and strengthening the exchange rate of lek obstructs the inflation target. It is important to note that the first condition refers to the interest rate situation. This signifies that the necessary space to implement the monetary policy by means of traditional instruments is not adequate.

Meanwhile, the second conditions signifies that the Bank of Albania has a well-informed and adequately justified opinion that shows that despite the positive reaction desired by domestic demand regarding the accommodative monetary conditions, the exchange rate obstructs the price goal through the negative effect of import prices (which are quoted in euro).

But as was declared in the official statements of the BoA, this intervention is a temporary and conditioned instrument. This decision-making was based on the fact that exchange rate developments were a result of a series of specific factors related to the period that could not be explained entirely by the performance of fundamental factors. The reader may find more explanations regrading this in the BoA's 2018 Annual Report and the 2019 Monetary Policy Declaration.

The Decision of the Supervision Council enriched the portfolio of monetary policy instruments of the Bank of Albania by adding a new instrument, which has a direct effect on import prices. In this manner the monetary policy of the Bank of Albania created a large capacity to manage negative shocks on consumer prices that result from developments in our trade partners, in cases when traditional monetary policy instruments have depleted all their capacity (as it happened at the beginning of the pandemic).

This discussion identifies a significant question: "Why not intervene continuously in order to control the value of the euro in the market?" Above all else, this would help realise inflation target and control money supply, two issues directly related with the primary objective of the central bank. Also in this case, despite the direct perception, the final verdict, which is based on a full analysis, results against the intuitive desire to control the exchange rate. As it might have been understood from the discussion so far, the exchange rate simultaneously affects directly or indirectly almost all economic and financial indicators. Furthermore, this impact appears concurrently or lagging in time through more than one channel of transmission. Consequently, the reaction of the economy is often opposite with the result desired by the central bank in the short run and always with negative consequences in the long run.

To further deepen the reason behind the BoA's decision-making, I invite you to read an intuitive description of the role that the exchange rate plays as an indicator and instrument of central bank policies, and the reasons of how and why it may find only one limited use to the function of the monetary policy in our case.

In a small and opened economy, the mechanism used to intervene in the foreign exchange market in order to manage the exchange rate, generally goes through the prices of imported and exported goods. In cases of a dollarized/euroized economy, when the exchange rate plays the role of the financial instrument that preserves the value of savings or part of financial obligations, considerations on wealth effects that exchange rate changes have on the private sector and banking system balance sheets, are added to the above channels. In extreme cases when domestic currency and central bank policies do not enjoy the necessary public trust, foreign currencies serve against possible devaluations of domestic currency.

Exchange rate shocks, which include the devaluation of domestic currency, in the presence of unstable monetary and fiscal policies, may bring out the desire to substitute domestic currency with foreign assets in order to protect the value of savings. These movements amplify even more the issue affecting the real economy and financial market of Albania, which in extreme cases may cause an economic and financial crises. Under these circumstances, the exchange rate would become not just an inciter of instability, but it would amplify every negative shock on the economy.

However, even in these extreme crises situations, which seem to spring from the quick and out-of-control depreciation of domestic currency, the exchange rate is not the perpetrator, but it is a signalling instrument of the crisis brought about by an erroneous policy- or decision-making. Therefore in principle, the exchange rate control cannot serve as an instrument to correct a destabilising policy. Against this destabilising perception, the exchange rate is a shock buffer and a correcting mechanism for the deficits and unbalances created in the economy. The empirical studies of the Bank of Albania conclude that the exchange rate plays the role of cushioning the shocks on the economy, and its developments are led by key macroeconomic factors rather than by market speculations or expectations (Luçi and Vika, 2011; Tanku and Vika, 2020).

The exchange rate influence on the economy appears through the following channels:

1. the trade balance sheet, which could be sensitive to the impact of exchange rate on prices of exported and imported goods and services; and
2. financial statements, which adapt according to budget effects (adding or losing capital/savings) that flow from exchange rate changes, referring to the real and financial dollarization/ euroization.

Through both these channels, exchange rate changes play a crucial role on the private sector's decision-making on consumption, investments, and savings, and from hereupon the monetary policy decision-making. I will not stop on the second exchange rate channel of transmission, since it is not directly related with the issue at hand. Furthermore, it has been widely discussed theoretically and empirically in the previous chapters, while it has been explained how the devaluation of exchange rate under the euroization of financial assets and liabilities, weighs on the system's and private sector's balance sheets, increasing the burden of debt and financial liabilities in foreign currency and corroding the value of savings in domestic currency.

The mechanisms which steers the first channel of transmission is the channel of prices of goods and services. Concretely, exchange rate devaluation increases the prices of imported goods in the domestic currency. This increase of prices of imported goods directly incites the increase of prices of consumer goods, as well as the prices of goods related or derived from imported goods in the domestic market, causing thus inflation.[17] On the contrary, strengthening the domestic currency would cause a decline of inflation.

As a response to price changes, consumers are likely to reduce the consumption of imported goods and increase the consumption of domestic goods (if they are replaced by them), the prices of which have not been affected by exchange rate. At the same time, the weakening of domestic currency renders goods produced domestically cheaper for foreign consumers. This increases the competitiveness of domestic producers in the global market, and it consequently

[17] *Because domestic importers and investors would transfer a part of their cost to the consumer.*

creates the premises for a higher demand of exports. To summarise, the exchange rate devaluation drives to the improvement of trade balance through the increase of exports and a partial substitution of imported goods with domestic ones. Both these actions explain precisely the reaction mechanism of the economy, triggering a fall of consumption in foreign goods and a rise in domestic production, in order to replace the consumption of imported goods and increse the exports.

In a free market, without the intervention of the central bank, these developments should trigger an expansion of the economic activity, an increase in wages and employment, and later an increase of inflationary pressures in the country. The illustration above describes the buffering mechanism that operates, from the exchange rate on the real economy. However, we should keep in mind that this mechanism operates equally well also on the reverse, when developments in the real economy instigate an adjustment through changing the exchange rate.

Placed in the context of the Albanian economy, the appreciation of lek during the past few years was driven by an increase in the exports of goods and services as a result of foreign demand, which has brought more foreign currency in, making lek stronger as a result. This has smoothed inflationary pressures since the effects of falling prices of imported goods in the economy, are larger than inflationary pressures that come as a result of a higher demand for domestic production. Seen from the central bank's tunnel vision, strengthening the exchange rate of lek against foreign currencies may be interpreted as a damaging phenomenon when inflation is below the objective, and it might be necessary to fight through intervening in the foreign exchange market.

If we were to widen the analysis as regards an overall balance, the performance of the exchange rate is in compliance with the expectations and theoretical conclusions, which is confirmed by the empirical studies of the Bank of Albania (Tanku and Vika, 2020; Vika etc., 2016). This means that exchange rate changes that are in accordance with economic developments are fully desirable. Under these circumstances, the fluctuation of the exchange rate in the

foreign currency market guarantees that the economic adjustment happens to the exchange rate rather than consumption, investments, or other real indicators in the economy. The Bank of Albania reacts and responds to these developments in the exchange rate not through intervening in the foreign currency market, but rather through managing the monetary policy well, targeting those real and nominal indicators which bring about these behaviour in the exchange rate. Concretely, the Bank of Albania has responded to lek appreciation through the continuous accommodation of the monetary policy.

A more general description to explain the appreciation of lek against euro is that the domestic currency has benefited from:

1. the faster economic increase in Albania than in the Euro area. This advantage is a natural characteristic that is driven by the law on economic convergence according to which emerging economies, taking advantage from institutional, legal, and infrastructural improvements, the adoption of technology and foreign investment inflows, have a natural growth ratio that is higher than advanced economies;
2. the higher interest rate in Albania than the euro area;
3. the much rapid increase of the monetary size or simply put, money, in the Euro area (as a result of balance sheet policies adopted by the ECB) against the increase of money in Albania;
4. the ever increasing opening of the Albanian market to euro area exports.

These factors show that when our economy has a faster economic growth, a higher interest rate and a slower growth of money than the Euro area, it is natural to have a flow of capital from the Euro area toward the Albanian economy. Consequently, the stronger lek is an effect rather than a cause of the developments in the real economy and financial markets. Factors 1-3 mentioned above are directly affected by the decision-making of the monetary policy through the interest rate and the size of money in circulation, and consequently, it plays an important role in the performance of the exchange rate through the well-management of these factors (1-3), without feeling the need to intervene in the foreign exchange market.

Developments in the euro area have dominated internal dynamics and have continuously strengthened lek. This assessment largely reflects the structural improvements in the Albanian economy and, at the same time, the ECB's decision-making during the period that followed the global financial crisis and also during the pandemic. The Bank of Albania has responded to this exchange rate assessment through the monetary policy.

A considerable number of research papers in the BoA have deliberated on the role of the exchange rate in the Albanian economy, including its impact on consumer prices, trade balance, and financial stability. These research papers conclude that generally, the exchange rate serves more as a buffer against shocks in the economy, favouring thus the current free exchange rate regime.[18] However, in particular cases, it appears also as not-so-inconsiderable perpetrator of fluctuations of real and monetary indicators in Albania.

In conclusion, as was mentioned at the beginning of this book, the Bank of Albania is following a free exchange rate policy. This policy has not changed, but it continues to constitute one of the fundamental elements of the monetary policy at the Bank of Albania. The Decision of the Supervisory Council at the Bank of Albania, in 2018, adds an extraordinary instrument with limited use under extraordinary conditions, when the exchange rate obstructs the fulfilment of inflation target under specific monetary and financial conditions.

III. Other measures undertaken by the Bank of Albania previous to the pandemic

Besides the measures expounded above, the Bank of Albania has also undertaken some other steps to strengthen the financial system. The activities of banking supervision are the direct aim and orientation of these measures, consequently they haven't yet been included in the analysis of this book. This choice is justified by the fact that their role is indirect and materialises in financial stability through the indicators

[18] *As an example refer to the research study conducted by Tanku, A. & Vika, I. (2020) "What drives the real lek-euro exchange rate fluctuations?", Bank of Albania, Working Paper, 42 (81) 2020.*

and channels largely discussed in the book. However, I think that it is important to have them listed in order to complete the framework of undertaken measures. In summary we can make mention of:

Signing the Memorandum of Cooperation between the European Banking Authority and 6 supervisory authorities in South-eastern Europe: the Banking Agency of the Federation of Bosnia and Herzegovina, the Banking Agency of the Republic of SRPSKA, the Central Bank of the Republic of Macedonia of North, the Central Bank of Montenegro, the National Bank of Serbia and the Bank of Albania. This memorandum constitutes a legal framework for the development of cooperation and exchange of information between the parties.

Given the significant weight of European banks in the banking sector activity in Albania, in 2018, a cooperation agreement was signed between the Bank of Albania and the Common Board on Resolution[19]. This agreement serves as a cooperation and information exchange platform for both institutions, regarding planning and implementation of resolution for cross-border banking groups. The purpose of this Agreement is to also to support the drafting of coordinated resolution plans for European banks' subsidiaries that operate in Albania.

In parallel, a series of regulatory acts were approved, which aim to further capitalise commercial banks, to better manage their risk, and restrict more prudentially large exposure indicators of commercial banks in international markets.

In conclusion, it is worth mentioning that all the measures summarised in this chapter created the premises to strengthen the ability of the Albanian economy to recover. Also, following the consolidating processes and other enacted measures, the financial system activity is characterised by a stable environment and the main banking system's performance indicators in Albania have been improving.

[19] *Single Resolution Board is the Resolution Authority for European Union banks and banking groups.*

Issues regarding the balance sheet of banks and enterprises did not obstruct any longer the operation of regulatory mechanisms, and policies were not put one against the other. This liberated the regulatory mechanisms of the functioning of monetary policy and stability, enabling good management through traditional instruments. In conclusion, all the above-mentioned measures created the necessary space to undertake further actions during the pandemic period.

REFERENCES

Borio , C., L. Gambacorta and B. Hofmann (2015), "The Influence of Monetary Policy on Bank Profitability", Bank of International Settlements Working Papers No. 514, BIS, Basel.

BoA (2013), Annual Report 2013.

BoA 2013, Annual Supervision Report 2013.

BoA (2014), Annual Report 2014.

BoA (2015), Annual Report 2015.

BoA 2015, Annual Supervision Report 2015.

BoA (2016), Annual Report 2016.

BoA 2017, Annual Supervision Report 2017.

BoA (2021), "Statistical notification: International investments position," Department of Financial Statistics.

Çeliku, E., Çela, E. and I. Metani (2018) "Potential output and growth, output and unemployment gap in Albania – Comparative analysis of recent estimations – 2015," Research paper, Bank of Albania.

Dushku, E. and G. Shijaku (2017), "Optimal foreign currency level: the Albanian case," Research paper, Bank of Albania.

Note, S. (2006), "Competition in the Albanian banking system", Bank of Albania.

Papavangjeli, M. (2021), "The bank lending channel and monetary transmission in Central, Eastern and South Eastern European countries," Economic Review, 2021 H1.

Papavangjeli, M. (2018), "Assessing real wage flexibility in Albania", Economic Review, 2018 H1.

Papavangjeli, M., Bode A. and Vorpsi B. (2017), "The influence of monetary policy on net interest margins: Evidence for Albania," Economic Review, 2017 H2.

RBA (2012), Raiffeisen Bank Albania, Annual Report 2012.

Tanku, A. and Vika I. (2020) "What drives the real lek-euro exchange rate fluctuations?" Bank of Albania, Working Paper series.

Sejko, G., Tanku, A., Dushku, E. and K. Ceca (2018), "The efficiency of the distribution of banking loans portfolio in Albania", Studies on the banking system and economic development, Bank of Albania.

Shijaku, G. (2020), "Bank stability and its relationship with competition among banks after global financial crisis. New evidences from Albanian banking sector.

CHAPTER VI: THE POLICIES OF THE BANK OF ALBANIA DURING THE PANDEMIC, WHAT WORKED AND HOW?

I. INTRODUCTION

This chapter aims to outline a detailed description of the measures undertaken in the framework of the pandemic, as well as the respective objectives that they ventured to realise. In parallel, we tried to explain the mechanism that conveyed these measures to the economy, as well as conduct an overall evaluation of their success. Beyond the explanatory and illustrative function, the Chapter aims to reflect the transparency of decision-making to readers and, simultaneously, present the most effective and result-bearing policies to policy-makers.

The assessments and the conclusions presented in this Chapter are underpinned by the existing research carried out both by BoA and foreign authors. The analysis offers also some hypothesis, which may serve as a basis for further studies in order to support future policy-making. The material represents a quantitative journey into the transmission mechanisms of both monetary policy and financial stability.

In contrast to the superficial description provided in the first chapter, here we will go into the analysis and the quantitative and qualitative effects of each and every measure in order to explain its transmission

mechanism to the economy until reaching the final destination, i.e., economic activity and prices, and their symbiotic connection.

I.1 A BRIEF OVERVIEW OF THE COVID-19 OUTBREAK[1]

The World Health Organisation announced the Covid-19 pandemic on 11 March 2020. The Member States and Albania likewise adopted the 0-Covid policy. This signified that a general lockdown was imposed in order to stop the spread of the virus. The decision-making was based on the historically-documented success in St Louis, USA, during the pandemic of Spanish flu one century ago, which through efforts to flatten the curve could better utilise hospitals' capacity and limit the number of deaths. Following WHO's instructions, Albania tried to contain as much as possible the spread of the virus in the population and keep hospitals' capacities available to allow the treatment of a large number of patients, despite the restricted capacities.

The containment of the pandemic and the health situation in the population naturally came with high economic and financial costs. As showed in the assessments laid down in the first chapter, the full and partial lockdown caused an unprecedented negative shock in the economy. Thus, the fall of production activity was accompanied by a decline in income, which weighed private sector budgets down. The inability to maintain consumption and pay debts damaged both the economy and the financial sector, particularly banks. In this context, it should be taken into account that here we are describing only the first and second chain of a series of negative consequences that repeat and reinforce each-other, and which lead to an economic and financial collapse. Under these conditions, it was necessary to intervene through monetary and fiscal policies to salvage the economy, and follow macro and micro prudential policies to safeguard the financial system stability. We will further present a detailed description of the history of this intervention.

[1] *A detailed calendar of the pandemic is set out in Annex II of Chapter I of this book.*

I.2 DESCRIPTION OF MEASURES AND THEIR TRANSMISSION CHANNELS

The introduction of this book analysed how the pandemic simultaneously affected the financial and economic sector. That part of the book presents detailed information on the severe shock caused by the pandemic on the real and financial sectors, but this info refers only to the effects of the first stage. Research conducted by Sejko and Dushku (2018), Shijaku and Ceca (2012), and Tanku and Vika (2020) show that these effects are directly linked with each-other. As such, they cause a declining vicious circle, where the shock on the economy is transmitted to the banking sector, which initiates a second shock on the economy which affects the financial system once more, and so on and so forth, until the economy and the system collapse. This could be expressed in the form of a currency, balance of payments or financial system crisis.

A similar phenomenon happened with the European debt crisis that reached its deepest fallout in the Greek economy. The mechanisms which steer and transmit shocks to the real economy and the financial sector are described in the feature that analyse the behaviour model of the economy and financial system.[2]

In general terms, these models show that consumption and investments are consequential components of aggregate demand and key economic growth promoters. At the same time, on the income side, the benefits of economic growth are used to pay the factors of production, as well as the bank loan that has supported the investment and consumption in the previous period. If households and enterprises fail to realise adequate income and pay their loans, then the financial statements of the banking sector will exacerbate, bringing capital and liquidity to a level that is inadequate to continue the lending activity.

The worsening of the banking soundness indicators limits other institutions and the central bank providing/supplying more liquidity to banks, creating thus a stalemate on lending to the economy. After this phenomenon, the shock backfires into the economy through

[2] *See: Vika, Skufi, Çela, Abazaj (2016); Dushku and Kota (2013); Skufi (2020).*

halting consumption and investments, caused by the lack of lending. In this case accommodative monetary policies find it difficult to help, since banks' balance sheets burdened by bad loans or other financial issues, cannot be supported by liquidity once they are at the brink of bankruptcy.

Consequently, the credit channel tightens and the effect of interest rate losses its importance while facing damaged financial statements that hinder the normal flow of credit or monetary circulation. To this end, this causes the further decline of the economic activity and employment, inciting other rounds of shocks until households, the private sector, and the banking system itself, collapse.

On the other hand, the foreign capital invested domestically "moves away" trying to avoid the crisis, further deepening the depreciation of the exchange rate. The shock on public trust in the domestic currency becomes an accelerating and multiplicative catalyst of negative adverse events to the economy and the financial system.

These features somehow outline the mechanism addressed in the empirical studies of the Bank of Albania, which support the analysis and recommendations for undertaking stabilising policies in the economy. The mechanism identifies some of the main monetary transmission channels: the interest rate channel; the bank loan channel; the regulatory channel; and the money channel. The last two are steered into motion particularly if interest rate and credit channels fail to fulfil the desired objectives to create money, driving the central bank to put into circulation increasing amounts of money through policies known as balance sheet policies, which were explained in the previous chapter.

The same mechanism may be also used to support the economy and save/shield it from the crisis. Empirical studies show that the relationships of economic indicators in Albania may change over time, although they remain useful.[3] Therefore, if reactions go both ways and are almost symmetrical in size, this provides a chance that the economy will recover through the same mechanism. In order for this to occur and be successful, it is necessary to "cut" the link of

[3] *See Bahmani, Miteza, Tanku (2020); Vika and Vika (2021); and Vika (2018).*

banking soundness indicators from the decision-making rendered on lending and financial intermediation in general.

Thus a regulatory adaptation is necessary, which temporarily separates financial intermediation from assets' performance in banks' balance sheets, in order to enable the functioning of the transmission mechanism that conveys policy's signals to the economy. This is more or less the scenario overlooking the Bank of Albania's intervention as a response to the pandemic. The monetary and operational policies could ensure the expansion of money and the normal functioning of the market, meanwhile the regulatory adaptation of the banking supervision and financial stability enabled the continuation of financial intermediation and the materialisation of the expansive monetary stimulus to the economy.

In practice, the decision-making policies of the Bank of Albania during the first stage of the pandemic, focused on two main directions. First, certain administrative measures were undertaken, which aimed at easing the regulatory channel in order to restrain the vicious cycle from the banking soundness to the economic performance.

At the same time, the economy experienced a strong monetary stimulus through the monetary and operational policy, reflected in lowering interest rates close to zero and providing unlimited liquidity to both the banking system and the economy.

This stimulus allowed the positive shocks on the real sector to eclipse the negative shocks on the financial sector. The positive shocks started to accumulate and give real ensuring effects, by controlling the economic decline in the second quarter and by encouraging growth during the next quarters in 2020. The administrative rules coupled with the support provided by the sovereign guarantee scheme allowed the positive signals to be conveyed to the financial system and, simultaneously, preserved the trust on banks and the economy.

The lending activity and economic recovery restarted under these conditions, meanwhile swap policies on government debt guaranteed the increase of monetary circulation and the stability of domestic

currency. The balance sheet expansion policies enacted by the ECB, which, akin to the FED, flooded the market with unlimited liability, might have given a push to this direction. However, the gargantuan expansionary policies of these central banks, ceteris paribus, might have exerted pressure to keep lek in an appreciative position against foreign currencies.[4] The positive impact on the Albanian lek might have compensated the inflationary pressures generated by other factors, thus somewhat restricting the achievement of inflation objective. Nonetheless, monetary shocks may cause only temporary deviation from the long-term exchange rate balance. Consequently, its contained fluctuations and the lower risk premia of the last years[5] must have created the conditions for a positive absorption of ECB's rapid money expansion in the Albanian economic environment.

Further ahead we have described all the measures carried out, as we also attempt to present a quantitative assessment for each of them. At the end of this Chapter there is a space dedicated to the discussion on the possibility of giving a larger monetary stimulus, as well as the reasons why we have been detached from the debate on whether to shift our goals toward the employment level or nominal GDP.

I.3 POLICY-MAKING AND ITS MECHANISM IN THE ECONOMY

As was mentioned in the first chapter, the BoA took a series of important measures to address the crisis, which are assessed to have yielded successful results. Further down the line we will have a closer look at the expected direct and indirect effects of these measures, as well as the mechanism by means of which they have functioned. The measures may be classified into two categories. One category unites monetary policy measures and the operational policy subject to it, while the other category summarizes the supervisory and financial stability measures, whose main objective was the banking system in Albania.

[4] *In reference to the research conducted by Tanku and Vika (2020), the faster increase of money in the Euro area than in Albania is assessed to be positive as regards the position of lek in the foreign exchange market.*

[5] *Also refer to discussions on exchange rate appreciation and implications in the Albanian economy in Box 3 of the Annual Report 2017, and Box 1 in the Annual Report 2018 of the Bank of Albania.*

The target of monetary policy

The measures carried out by the central bank during the pandemic aimed at helping the Albanian economy through absorbing the negative effects engendered by internal and external factors, as well as supporting the commercial banks with lending according to their capacities. The policies and instruments used by the Bank of Albania are described below in a narrative fashion, put in the monetary transmission mechanism to illustrate how these instruments affect the economy and the financial system stability, as well as to evaluate the size of their effects.

The visualisation and assessment of these instruments was constructed based on empirical evaluations of the shocks on economic indicators in the models published by the Bank of Albania. The goals of each specific measure undertaken by the Central Bank may be summarised in six different directions, as below:

I.3.I. Helping the economy to absorb the negative shocks caused by the pandemic, as well as keeping credit affordable to the banking sector through expansionary monetary policy and the monetary operations which serve its implementation.

- **Interest rate reduction**

The first and immediate measure in response to the pandemic was the reduction of the policy rate, which was the main instrument to manage the economic and financial activity. This rate, which represents the cost of credit that banks take from the Bank of Albania, determines all the other rates in the financial market. Consequently, the reduction of the policy rate is expected to lower the interest of deposits and loans, driving down the cost of credit and projects financed by it.

As a result of the decision-making, the interest rate reached the lowest historical at 0.5%. As a result, new and existing loans became less costly, as the financing costs for new projects fell and credit burden for existing projects was lifted. In the same vein, this measure lowered the cost of financing spending for households, enterprises, and the

government, therefore increasing investments and consumption in the economy in the best case scenario, or limiting the fall of investments and consumption in the worst case scenario.

This stylised/simplified description represents the transmission mechanism of the monetary policy from the interest rate to the aggregate demand, demand for money in the economy, prices, and the exchange rate. If we refer to the conclusions reached in the first and second chapter, this monetary policy helps in strengthening the financial stability of both the banking and financial system.

Simultaneously and attempting to achieve the same aim as the reduction of the policy rate, the Bank of Albania lowered the overnight loans rate, from 1.9% to 0,9%, and kept the overnight deposit rate unchanged at 0.1%. Like in the case of the policy rate, these movements also aim to lower the cost of the banking sector, which are transmitted to the private sector and finally to the economy through the financial instrument rates.

The macroeconomic models of the Bank of Albania show that a reduction by 100 base points of the interest rate causes an increase of the economic activity and prices by 40 base points and 10 base points, respectively, at the end of two years.[6]

As documented in this model, these changes are conveyed through interest rate alterations in the money market, such as the 12-month T-Bill rate, and later in spending for consumption, investment and aggregate demand, and finally inflation. According to this evaluation, the reduction of the monetary policy rate by 50 base points, in March 2020, must have exerted pressure on the gradual reduction of12-month T-Bill rates at approximately the same measure; on the increase of aggregate demand by around 5 base points after three quarters, driven mainly by the positive and speedier reaction of private investments rather than consumption spending; and the positive but contained effects in the basket of goods prices by around 2 base points.

[6] *See Figure 4.1 for the shock analysis of the policy rate in the research study conducted by the Bank of Albania from Vika, Skufi, Çela, Abazaj (2016).*

- **The unlimited injection of liquidity to the economy to support the expansionary monetary policy and the normal functioning of the financial markets, in an attempt to prevent short-term negative effects from obstructing financial intermediation in the economic activity.**

From March 2020, the operational policy of the Bank of Albania has altered the auction form for (weekly) liquidity injection, from an auction of limited quantity and fluctuating price to a fixed-price auction with an unlimited quantity. Banks come to this market to take reverse repo for liquidity, which transfers to the economy through them. These weekly transactions and "their price" represented by the interest rate of lending, are the operational instruments that implement the monetary policy decision-making. When the quantity of weekly loans is limited, banks compete with each-other by assigning the interest rate, following the principle "the highest price wins."

The starting point of the auction is the level of key rate of the monetary policy of the Bank of Albania. As a result, the rate derived at the end of the weekly auction is higher than the basic rate, but lower than the overnight loans rate. Changing the form of auction to a fixed price, equal to the key interest rate, and unlimited amount, the Bank of Albania guarantees all the necessary liquidity to banks with a key interest rate (i.e., policy rate) thus avoiding the competition between them. This guarantees that costs in the interbank market (which also represent the first link of the transmission mechanism of monetary policy) are not higher than the key rate of monetary policy. In practice this type of auction places a ceiling over interbank market costs and keeps at a low level the financial costs in the economy, bringing along all the benefits mentioned above.

However, the benefits of unlimited liquidity go beyond controlling the interest rate. Liquidity is necessary for the circulation of goods and services in the economy. Crises, such as the one caused by the pandemic, increase the demand for liquidity in cash held outside banks and financial institutions. Faced with the fear of unexpected and considerable expenses due to the health emergency, the restriction of economic and social activity, and other pandemic-related limitations

(the Greek crisis serves as a key illustrative example here, when daily liquidity restriction for households and enterprises was restricted) the desire of households and the private sector to hold liquidity beyond the normal amount, increases.

It is crucial for the central bank to use unlimited liquidity to face the higher demand, otherwise the difficulty to ensure cash (liquid means) will promptly cause a rise of the interest rate in the economy. This incites panic and is at loggerheads with the Bank of Albania's policy, which further increase the desire for cash, creating possible problems for the financial system and even risking the soundness of the banking sector in adverse scenarios.

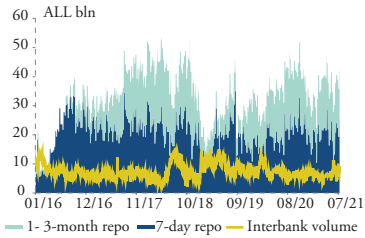
The change in the weekly auction form provides room to commercial banks to receive unlimited liquidity from the Bank of Albania, at the cost of the key interest set forth by the Bank of Albania, which for the moment stands at 0.5%. This fades away the stress of ensuring liquidity not only in the banking system, but also in the private sector, government and households. Therefore the entire economy may have the needed liquidity to function normally and withstand the challenges of the current financial tightness.

To strengthen this measure and to ward off the anxiety of weekly borrowing, the Bank of Albania has injected unlimited liquidity through lending agreements (reverse repo) with one and three month maturity, by calming down and guaranteeing short-term market expectations as a result.

The following figures identify that the interest rates of the interbank market have been continuously anchored close to the monetary policy rate throughout the pandemic, confirming low liquidity risk premia, as the central bank provided liquidity in accordance with the interbank market demand. These actions served to better balance the demand and supply of money market, as they also influenced interest rates fluctuation of loans at low levels.

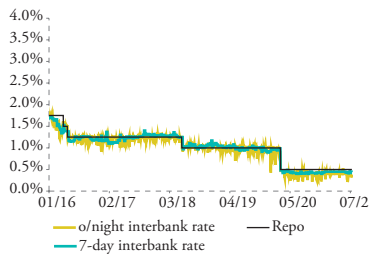
Figure 1 Liquidity and interest rates

The liquidity situation of banks has remainedcalm in the course of the second quarter.



Note: Daily performance of liquidity supplied by the Bank of Albania through one-week and 1-3 month repo and traded volume by banks in the money marke.
Source: Bank of Albania.

Interest rates in the interbank market remain anchored close to the policy rate.

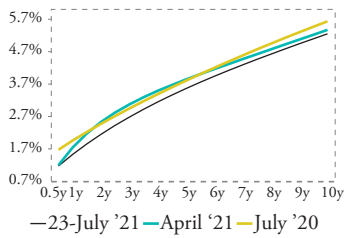


Note: Data show the daily performance of interest rates in the interbank market.
Source: Bank of Albania.

Source: Bank of Albania, Quarterly Monetary Policy Report, 2021/III.

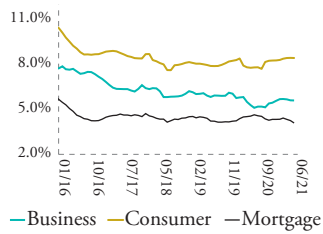
Figure 2 Yileds curves and interest rates

Yields curve has flattened again in the medium-term segment and has shifted downwards compared to the previous year.



Note: Tata show the interest rates (monthly average) on Government debt securities by various maturities calculated according to Nelson Siegel model.
Source: Bank of Albania.

Interest rates on loans in lek decreased for loans to enterprises and for mortgage loans to households.



Note: The data indicate the monthly interest rates of new loans in lek in %, 6-months moving average.
Source: Bank of Albania..

Source: Bank of Albania, Quarterly Monetary Policy Report, 2021/III.

The lower interest rates and unlimited liquidity have concurrently enabled and guaranteed banks to possess the necessary funds to provide loans with better terms and conditions to households and enterprises. Due to the higher money supply and control over the interest rate, loans terms and conditions have remained sustainable for households and enterprises.

This discussion brings us to another set of important measures, which aimed at guaranteeing the disbursement of loans to enterprises and households without any restraints. Guaranteeing credit warrants both monetary guarantee and low interest rates, and regulatory

guarantee. Taking into consideration the fact that the banking system is an undertaking build on trust and the money/savings of households and enterprises, it had to fulfil a series of quantitative restrictions, expressed and regulated in the form of well-defined indexes in relation to capital, liquidity, financial leverage, non-performing loans etc., which in unison have been named "banking soundness indicators."

Simultaneously, the banking system must be protected against risks, by putting aside (in the banking locution "provisioning") adequate funds to withstand those risks. To reach the maximum values of these indexes, a bank is required to put a halt on the lending process in order to stop taking further risks and simultaneously increasing provisioning. Both these requirements obstruct the lending activity and, consequently, private sector's consumption and investments.

The same risk principles are also adopted in case of government borrowing and, consequently, also in restricting lending to the government, becoming a direct inhibitor of government spending in cases of health and economic emergencies.

Clearly, the first chapter and economic statistics proved that the pandemic, its ensuing uncertainty, and the measures undertaken in the form of full and partial lockdown of the economic life of Albania, negatively affected the income of enterprises and households, causing difficulties in honouring their obligations to the banking system.

It is not necessary to explain that this would immediately worsen the banking soundness indicators, and as a result, the regulatory requirements of the banking system's legal framework would thereupon impose a suspension on loans to the private sector and households. Moreover, government measures which restricted the volume of economic activity in order to restrain the spread of COVID-19, limited government income, as well, since less activity signifies less revenues from taxes.

As the pandemic enhances the need for emergency spending, this signifies that government deficit will go up, directly affecting its payment ability. As a result, in the framework of implementing

the relevant regulation, the banking system must restrict lending to government.

Suspending lending activity in the economy would go against the expansionary monetary policy and would diminish the effects of the lower policy rate and unlimited liquidity, by obstructing the mechanism of monetary policy transmission to the economy. The empirical studies of the BoA show that the fall of economic activity would directly impact the payment ability of the private sector and households, which would have difficulties in honouring their debt starting thus a vicious downward circle, where the economy and credit negatively affect each other. According to the estimations presented in the first chapter, this impact would be considerable, directly affecting the deterioration of the non-performing loans ratio up to 65 percentage points.

I.3.2. To ensure loans to the private sector and households

In order to obviate the scenario described above and enable credit flow to the economy through increasing banks' lending capacities, the Bank of Albania undertook a series of temporary amendments to the regulatory framework of supervision and financial stability, which are succinctly summarised below.

- **Measures to guarantee loans to the private sector and households**

Regulatory changes

1. On 12 March 2020, the Bank of Albania enacted some changes in the Regulation "On credit risk management." These changes introduced a series of temporary regulatory facilitations, which allowed banks, non-bank financial entities, and savings and lending associations to not reflect credit insolvency in loan classification and provisioning estimation. This temporary measure practically froze (kept unchanged) the banking soundness indicators, also in cases when the private entity could not pay the loan.

2. On 1 April 2020, some temporary changes in the Regulation "On the risk management from large exposures of banks" were presented. These changes predicted, among others, a preferential risk weight of 0% and excluded government debt securities in foreign currency from the maximum allowed exposure for 2020 issuances. Both these regulatory changes aimed at further easing risk transmission of banks' exposure against government debt issued in 2020.

3. On 28 Mary 2020, temporary changes of the Regulation "On credit risk management" decreed the temporary suspension of deposits for bad debt classification and for provisioning estimation until August 2020; a more facilitated treatment of credit for March-December 2020; as well as extending the entry into force of the more rigorous requirements on credit restructuring for 1 January 2021.

4. The sovereign guarantee on new credit was the needed signal of the government's support for the banking system in order to drive lending. The sovereign guarantee fund of ALL 11 billion was aimed at helping enterprises affected by the pandemic take out loans, whereas another ALL 15 billion[7] was allocated as a guarantee for lending to all private enterprises, which had paid their tax obligations and had provided sound financial statement prior to the pandemic shock.

These measures, all together, temporarily eliminated the regulatory restrictions that prevented loan granting, whereas on the other hand, they provided government guarantee that the new loans would not damage banks' balance sheets, despite the challenges faced by private enterprises. These measures eliminated the uncertainty of lending to the economy. Therefore, there was an increase of loans to the economy, the private sector, and the government despite the economic and financial issues caused by the pandemic.

[7] *Source: website of the Ministry of Economy and Finances on the measures undertaken during the March-June pandemic period, updated on 22 September 2020 (https://financa.gov.al/masae-e-marra/).*

- **Support to enterprises and households**

With a view to mitigate the financial effects of the restrictive measures on the economic activity and, naturally, the ability of the private sector and households to pay off loans, the Bank of Albania in cooperation with the government decided to ask banks to extend the payment deadline of loan settlements for all enterprises and then households, which were unable to pay their upcoming settlement due to the pandemic.

The deadline of the regulation on out-of-court treatment by banks of borrowers facing financial difficulties, was extended until the end of 2020. These measures were naturally taken in coordination with the measures described above on the application of regulatory easing for the banking and the overall financial system.

According to the Bank of Albania's evaluation on the monetary policy ratio, the effect of these measures was immediate and consequential. Around one third of the loan portfolio is assessed to have benefited by the extension of loan instalments[8]. Also, despite the deterioration of economic conditions, commercial banks accelerated furthermore the pace of credit expansion compared to the previous year.

The measures undertaken by the BoA and the fiscal authority in support of households and particularly enterprises must have contributed to the normal functioning of the economy. Although the economic activity significantly contracted, the expansion of credit accorded to the private sector in 2020 reached ALL 47.9 billion, up by around ALL 5 billion compared to the previous year's growth (Table 1).

*Table 1: The expansion of credit to the private sector**

	2015	2016	2017	2018	2019	2020
Loans to enterprises	5.37	10.19	11.71	17.06	28.03	35.35
Loans to households	8.99	9.61	13.93	12.61	14.92	12.57
Loans to the private sector	14.36	19.81	25.64	29.67	42.96	47.93
Expansion of credit (in % of GDP)	1.0%	1.3%	1.7%	1.8%	2.5%	3.0%

Source: BoA, Annual Report 2020, the data used in Box 3.

**) The loan data is in billion Lek; they show the annual expansion of credit adjusted for exchange rate fluctuations. Furthermore, the loan data is adjusted also for written-off loans since 2015.*

[8] *Refer to the Quarterly Monetary Policy 2020/III of the Bank of Albania, Box 1 "On the impact of the measures to support lending during the COVID-19 pandemic."*

- **Encouraging banks to play their part**

The decision of the Bank of Albania in April and July 2020, as well as January 2021 on the suspension of the distribution of carried profits as well as profits realised by banks until the end of 2020,[9] served as a driving force for commercial banks to play their part in the face of the pandemic, in the same vein with the central bank, the government and the economy in general. However, beyond this moral and regulatory effect, suspending the dividend payment had a direct impact on the issue treated above, since the undistributed profit increases the banks' capital.

In this manner, by improving the capitalisation indicator, in addition to the positive effects on the banking system's financial stability, there is a possibility to increase lending, since the added capital guarantees additional funds necessary to banks to withstand negative shocks in cases when unpaid loans increase. In reality, the suspension of undistributed profit resulted in higher shareholders and regulatory capital during 2020. This had a positive effect of 0.2 percentage points in the performance of the capital adequacy ratio.[10] These developments, coupled with the easing regulatory measures of the BoA on rescheduling loan payments during 2020, provided their contribution in the expansion of outstanding credit (particularly the medium and long-term credit), which reached ALL 630 billion in June 2021, or up by 6% than in the previous year.[11]

I.3.3 Safeguarding financial and macroeconomic stability through international cooperation

In the international cooperation framework, the BoA signed an agreement of cooperation with the ECB for a EUR 400 million credit line. In order to understand the real value of this agreement it suffices to say that it represents 60% of 2020 remittances (in other

[9] *These were the Decisions: No 24, dated 8.4. 2020; No. 40, dated 1.7. 2020; and No. 4, dated 13.1.2021 "On the suspension of the profit allocation from banks," where the BoA required the suspension of profit carried from previous periods, profit realised in 2019, and profit that will be realised during the first and second half of 2020, and then until the end of 2021.*

[10] *Financial Stability Report, 2020 H2, p. 49; and 2021 H1, p. 51.*

[11] *Financial Stability Report 2021 H1, p. 56.*

words, around 43% of direct foreign investments or 50% of exports of Albanian goods). This is a significant measure to address the euroisation issue in the Albanian economy. Due to the panic, the increase of demand or preference for liquidity in foreign currency has immediate effects in three main directions for a small and opened economy, whose currency is not a reserve-holding instrument.

First, the increase of demand for foreign currency at banks' tills may put them under difficulty while trying to fulfil this demand. Second, the increase of demand will put continuous pressure on the devaluation of national currency. Since around half of the bank credit is denominated in foreign currency (mainly in euro), the depreciation of lek would increase the non-performing loans ratio, as identified by BoA's empirical studies, exacerbating furthermore the banking soundness indicators and the financial statements of the private sector.

Third, the depreciation may cause an immediate and out-of-control upsurge in prices of imported goods and as a consequence of all the basket of consumption goods. This would condition or curb the expansionary monetary policy carried out by the Bank of Albania, and given the restrictive and falling economic activity, an unfavourable stagflation would ensue.

Furthermore, lek depreciation would simultaneously worsen the public debt ratio to GDP, whose share in foreign currency accounted for around 49% of the total since 2015. Consequently, depending on the prevalence of one or several of the above factors, the depreciation of lek may cause a banking crisis, a debt crisis, or a balance of payment crisis that may eventually expand to a more general economic crisis.

The agreement with the ECB served as a guarantee to avoid these phenomena. This agreement allowed the Bank of Albania to ensure the necessary funds to handle demand emergencies for liquidity in foreign currency, without touching foreign reserves. Fortunately, due to the effects springing from the policies undertaken by the Bank of Albania and the government, as well as public's trust in them, the enactment of this agreement was not necessary. However, as soon as the agreement was signed its effects were felt, since it provided the full guarantee that the central bank possessed all the necessary

instruments to withstand an exchange rate shock. Consequently, the market calmed down avoiding thus the panic and demand distortion caused by the exchange rate.

As a result, the discussions provided in the preceding chapters of this book, clarify that despite the classification of measures listed under the categories of monetary policy, financial stability, and banking supervision, the empirically-proven interaction between them signifies that the measures had a positive effect, which was clearly observed in the second round as well.

This means that every measure carried out to the function of the monetary policy impacted the improvement of the banking system soundness, and every measure undertaken to safeguard the soundness of the system played an important role in conveying the expansionary monetary policy to the economy, by initially restricting the negative effects and then enabling the economic activity to recover.

These measures kept the monetary policy transmission mechanism alive, and therefore, they allowed the conveyance of monetary policy signals to the economy. The main transmission channels of the monetary policy were interest rate and bank credit. In parallel, as a result of the BoA's policies there were two more channels at play: the exchange rate and the money or balance sheet policies of the BoA.

I.3.4 Communication with the public

To inform the public on the measures undertaken to counter the situation, the high executives of the Bank of Albania have given interviews in various media, by responding to the questions of journalists and public opinion. This discussion continues to be enriched through explanations, analysis and statistics featured in this book as well.

I.3.5 Panic management and the well-functioning of the foreign currency market

The Bank of Albania has continued to closely monitor the behaviour of the exchange rate in the domestic foreign exchange market, with a view to react promptly to mitigate the transaction distortions

observed in this market. The exchange rate is freely determined by foreign currency demand and supply in the domestic foreign currency market and is not an objective set by the Bank of Albania. Without impeding this policy, the Bank of Albania may act in the foreign currency market with a view to avoid distortions in the domestic foreign currency market and adapt the exchange rate with the level determined by macroeconomic factors, as well as fulfil the objective of keeping an adequate foreign currency reserve level. By including the latter in the monetary policy, as it was described in the preceding chapter, the negative effects from the exchange rate on the public debt sustainability and financial stability (taking into consideration the issue regarding assets and liabilities euroisation) were kept under control.

In accordance with the policy for managing the foreign currency reserve, the Bank of Albania announced, at the beginning of 2020, that it will increase foreign currency by purchasing around EUR 68-102 million in the foreign currency market. This policy materialised through increasing the issuance of money at an amount equal to the increase of foreign currency reserve. Consequently, the higher foreign currency reserve expands the Bank of Albania's balance sheet and as a result of this process, liquidity in the economy increases. From this point of view, buying foreign reserves has the same features of balance sheet policies (which are treated theoretically and practically in chapter 4), and this is simultaneously a monetary expansionary measure, with a direct effect on monetary policy decision-making.

By judging the behaviour of the exchange rate as a foreign currency market "distortion" at the beginning of the pandemic, the Bank of Albania intervened during the last weeks of March 2020, by selling EUR 20.4 million. Concurrently, the BoA reduced foreign currency reserves purchases announced in the auction calendar, by buying EUR 13.7 million in the first quarter, or as much as one-fifth of the minimal amount prognosticated for 2020. These changes had an effect and were assessed as being adequate in obviating distortions when the pandemic was announced. After this, the exchange rate has been freely determined by the market.

Despite the episode of distortion and the entire economic and financial issue that was presented by the pandemic, as explained

above, the measures undertaken in its framework cushioned the effects of the shock on real economy and financial system indicators. Therefore, they helped to safeguard the overall exchange rate stability, which continues to remain stable as it reflects the seasonal behaviour around a slight appreciation trend. This stability was affected also by the nature of the crisis and the concurrent fall in demand and supply for foreign currency.

It is worth mentioning that the real shock and particularly the psychological one were not reflected in the increase of negative expectations, which usually cause panic and exchange rate devaluation. And this may be interpreted as having trust on the measures undertaken by the Bank of Albania in the framework of the monetary policy and financial stability. Exchange rate stability is an indicator that shows that the policies were appropriate and communication with the public was adequate.

Put in simpler terms, the above conclusion gives the impression that the exchange rate represents an easy and direct instrument for materialising balances sheet policies. This conclusion may naturally raise the question: Could and should the BoA support the economy by adopting balance sheet policies at a larger scale? Maybe as such, the purchase of foreign currency may have been used more often and more forcefully as a key instrument to implement the expansionary monetary policy in support of the economy. A short yet correct answer to this is provided at the end of chapter 4, according to which this would require that the intervention for purchasing would be at a considerable amount in foreign currency, which may not be advised to a small opened emerging economy, with a high rate of real and financial euroisation.

Now, since the reader is better acquainted with the role of exchange rate, the euroisation issues and its interaction with monetary policies, those relating to stability and the economy overall, it is the appropriate time to explain in more detail, the reasons that restrict the adoption of balance sheet policies in the case of the Albanian economy. As will be understood by the forthcoming discussions, enriching monetary policy by adopting balance sheet policies through the measures presented in this chapter, it is a policy with potential risks, negative side effects, and long-term effects on the

macroeconomic and financial stability of Albania. As a result, it must be noted that the policies undertaken by the BoA are optimal, since they have advanced up to where profits balance costs. To cross this limit means to undergo a dangerous adventure, as will be well understood in the following discussion.

II. CHANGING, ADAPTING, AND ENRICHING THE MONETARY POLICY

Chapter 4 highlights that the 2008 global financial crisis and particularly the crisis caused by the pandemic, stressed the need to counter-respond to the negative shocks. This required the monetary policy strategy to be revised and re-conceptualised particularly in emerging countries, with a view to enriching both the objectives and the instruments for implementing the monetary policy.

Overall, in their strategy on implementing the monetary policy, in addition to their main objective, i.e., price stability, advanced economies also have secondary objectives, designed to address issues of financial frictions and financial stability, as well as being lender of last resort. Since secondary objectives are an important part of the transmission of monetary policy, in these countries these strategies are considered an important factor for determining the central bank's monetary policy approach.

Furthermore, the revision of the monetary policy strategy occurred when the global economic environment had fundamentally changed, rendering the current monetary policy instruments less effective in achieving their primary and secondary objectives such as: financial stability, climate changes, and distribution. Thus, when choosing their instruments, central banks must take into consideration the trade-off between their primary objective and the presence of secondary objectives, as well as the costs accompanying the monetary policy decision-making based on the instruments it selects to adopt. As a consequence, banks in main advanced economies changed their objectives, tools, or instruments, towards those considered non-conventional, which are outlined in chapter three and which found little application in emerging economies.

Even when these non-conventional policies were applied, their degree of intervention was insignificant compared to institutions such as FED, ECB, BoE, BoJ etc. The application of these policies is conditioned by capital market developments in these countries, as well as a conglomeration of risks that accompany banks' balance sheet policies. As was previously explained, the Bank of Albania has limited theoretical possibilities to implement these policies. However, if we were to overcome these limitations in the framework of further easing the monetary policy the Bank of Albania may undertake one of the following policies:

1. purchase government securities, to cutting time on the yield; and
2. intervene in the foreign currency market to depreciating the exchange rate.

By simply laying out the type of policies that might be carried out, it is not easy to grasp the effect, size, and costs of this decision-making process. As a result, since the previous chapters include the description of the monetary policy mechanism and other central bank policies together with monetary, financial, and fiscal indicators, and how they intertwine, this chapter will discuss and illustrate the conclusions reached in chapter 3 in regards to the practical implementation of monetary policy innovations in an emerging economy, such as Albania.

In order to put the discussion in a more formal and empirical platform which focuses on the measure, effects, and cost that accompany the decision-making process provided in points 1 and 2, based on the models and empirical work of the Bank of Albania, several scenarios were evaluated that aim to explain the intuition behind them. The final purpose of the material is to investigate and illustrate by means of estimations the advantages and risks of using the balance sheet of the Bank of Albania as a means for increasing the monetary expansion in the economy, by utilising the T-bills or exchange rate market, in order to close the gap that exists between the target rate of inflation and the current one.

II.1 PURCHASING GOVERNMENT SECURITIES TO CUTTING TIME ON THE YIELD OF T-BILLS

This space of the chapter elaborates on the hypothetical case of expanding the balance sheet of the Bank of Albania by purchasing

government securities. In the concept of monetary theories broadly described in chapter 3, this scenario may be considered a hypothetical case of decision-making regarding the effect of the interest rate curve on the market, and may be conceptualised in the framework of the balance sheet policy. In other words, in this scenario the Bank of Albania tries to stop the increase of interest rate on government securities, which serve as a reference for the other market rates, by purchasing large amounts of T-bills in the secondary securities market. The increase of demand by the Bank of Albania will drive T-bill prices up and, consequently, this would cause a decline in the yield of these investments.

The lower interest of government T-bills would be later conveyed to all the other economic and financial indicators through the transmission mechanism explained above. This hypothetical scenario is established on purchasing government securities, since in the current financial market developments in Albania, they consist of the only financial instruments that could be traded, whereas the financial instruments of the private sector are not available (furthermore, refer to Box 1). It must be underscored that such a scenario is limited (to the purchasing amount). First, by the legal obligations laid down in the Law "On the Bank of Albania", which aims to maintain the independence of the central bank and its policy from the dominance of fiscal policy and, second, by the "economic thresholds" that prevents the debt monetisation practices of central bank (which render it unstable).[12]

---

[12] *Beyond this conclusion reached as a result of empirical exercises, as was also highlighted in chapter 3, the policies elaborated here are hypothetical, since their execution is limited by the obligations provided for in the law "On the Bank of Albania" on financing public debt. Article 30 of this law provides that: (i) "...the main amount of credit or loan disbursed and the non-disbursed amount of credit or loan of the Bank of Albania granted to the Government of the Republic of Albania shall not exceed 5% of the annual average of budget revenues ..." (Article 30, paragraph 4), or*

(ii) "in out of the ordinary circumstances, temporarily exceeds the limits by a special act..." and "exceeding this limit shall not cause the main amount...to go over 8% of the annual average of budget revenues..." (Article 30, paragraph 5).

By interpreting the law described above quantitatively, it results that BoA's annual purchases shall not exceed the level of around:

a) ALL 20 billion, in line with the 5% threshold under normal conditions or

b) ALL 32 billion in line with the 8% threshold of the average fiscal revenue for the last three years under out-of-ordinary conditions. It is clear that both evaluations are much lower than the level of intervention foreseen in our hypothetical exercise.

Crossing this limit puts government's solvency under question, snuffs out the desire of investors to continue financing since government's ability to pay its obligations is lost, increasing the probability of bankruptcy in the future. Consequently trust on the domestic currency is lost, particularly in less developed countries which have a significant amount of debt in foreign currency. To this end, a higher public debt adds pressure on the exchange rate, thus weakening the domestic currency and increasing the cost of debt exponentially.

Therefore, while the legal threshold is designated on the law, the economic threshold is the one that impedes the long-term government debt sustainability; it changes depending on the particulars of the economy, its stage of development and reputation in the international capital markets. The best world practices distributed by the Academy, the IMF (2017), and similar international institutions have determined this threshold at 60% of GDP and the risk premia is increased by 4 percentage points for each hike of 1% over the 60% level (Blanshard, 2019).

The outlined scenario considers the effect of purchasing government securities by the Bank of Albania will have on the GDP, inflation, banks' profits, and the sustainability of public debt. More concretely, we assumed that in order to further stimulate the economy the Bank of Albania may purchase government [13] securities in the secondary market with a view to lower the interest rate of T-Bills, which serve as a referential rate for the interest rates of medium and long-term loans. The assessment on the monetary policy mechanism of transmission observes that despite Bank of Albania's continuous reduction of the key rate, since 2011, and its reflection on other interest rates, there is still a gap of 2 p.p. between the key rate and the T-bill rate. The assessments based on Bank of Albania's empirical models show that in order to reduce this difference by 1 percentage point, i.e., to lower the interest rate of 12-months T-bills from 2 to 1 percentage points, it will be necessary for the Bank of Albania to buy around ALL 94 billion of T-bills.[14]

[13] *Pursuant to Article 30 of BoA law, the central bank may purchase government securities up to ALL 20 and ALL 30 billion, which correspond to the determined threshold of 5% and 8% of the annual average of fiscal revenue for the last three years. However, Article 32 of BoA law may be interpreted as having the space to not restrict monetary policy from using the instrument of purchasing securities, while it serves to fulfil the main objective.*

[14] *This level is three times higher than the permissible threshold of 5-8%.*

Lowering the interest rate on T-bills puts in motion a mechanism that works in two directions: first, the lower interest rate is transmitted to the entire financial market, bringing the cost of credit down (not only new credit but also the existing one) and, consequently, driving consumption and investments up, and second, there is a direct accounting effects on the revenues of financial agents, who will profit less from the assets of the balance sheet.

Assessments conducted on both these effects using the MEAM model, show that the interest rate shock on 12-month T-bills primarily affects private investment rather than people's consumption. Over a two-year horizon, the reduction of interest rate by 1 p.p., may cause an increase in production by 0.4% and acceleration of inflation by 0.1 p.p. [15]

If we were to judge in the framework of the overall economic equilibrium, the overview of the transmission mechanism of this policy in the economic and financial sectors must be complemented with the analysis on the negative effect that the lower interest rate has on banks' profitability and financial soundness indicators. Serving this purpose, the accounting effect and the lower interest rate of T-bills, which were as a result of balance sheet policies based on government securities purchases, on the banking system income (based on the 2020 data) is reflected below:

(i) fully in the stock of T-bills for all maturities;
(ii) fully in the yield of variable rate bonds; and
(iii) partially in yield of fixed rate bonds issued recently.

According to this scenario, it is assessed that annual losses in total securities stock revenue for agents financing in government domestic debt stock, due to the decline of T-bill yield (or TRIBOR) by 0.5 and 1 percentage point, respectively, are calculated in ALL 1.8 and 3.0 billion (ore around EUR 15 and 25 million, Figure 8). Around 20% of lost revenue is caused by the declining yield of fixed rate bonds re-issued during 2021, and around 80% of lost revenue is caused by the declining yield of T-bills and floating rate bonds.

[15] *Refer to the research study of Vika etc., (2016) on the re-evaluation of the MEAM macroeconomic model.*

Also, estimations show that the revenue from interest rate of loans in lek fall by ALL 1.3 billion (or EUR 11 million) if T-bills interest rate fall by 1%. This effect is proportional if the yield of the 12 months T-bills experiences a decline by 0.5 percentage points (Figure 9).

Based on this estimations and the flexibility derived by the financial model[16] is the impact of a falling T-bills interest rate on the intermediation indicators and banking sector soundness assessed. The following results are included to illustrate the direction and intuition of the shock and the mechanism of its spread in the banking system's balance sheet and financial soundness.

The size of the reported shock must be considered carefully, since the model used dates back in 2014 and it must be reviewed and reassessed, by taking into consideration the changes that the banking system itself has undergone, as well as the asymmetry and non-linearity that exists between the decreased and increased interest rate.

Table 2: The impact of lowering the interest rate of loans by 1p.p.

Reaction scale	First year	Second year
Total loan volume (%)	1.56	4.53
Households loan volume (%)	1.45	3.94
Enterprises loan volume (%)	1.80	5.90
Loan interest rate (p.p.)	-1.00	-0.10
The interest rate of banks' loan cost (p.p.)	-0.09	-0.11
Net income from interest (%)	0.34	-1.55
Risk-weighted assets (%)	0.32	1.04
Capital adequacy ratio (p.p.)	-0.02	-0.30
The total rate of bad loans to total loans (%)	-0.20	-0.30

Source: Bank of Albania.

Estimations (Table 2) show that the lower interest rate of loans will be accompanied by a 4.5% increase in the volume of loans over the horizon of two years, a 1% increase in risky activities, a 1.5% decrease in net income, and a 0.3 p.p. decline in bad loans. On the other hand, the empirical models [17] for the banking sector in Albania,

[16] *Refer to the material by Dushku Kota, (2013) "The financial model in Albania: A panel data approach", Bank of Albania, Working paper 14 (73) 2013.*

[17] *Refer to the research conducted by Papavangjeli & Leka (2016) "The micro and macroeconomic indicators of net interest margin in the Albanian banking system 2002-2014," Bank of Albania, Research study, 2016 .*

based on this size of the shocks, show that the above results are not likely to significantly damage the soundness of the Albanian banking sector through their effects on net interest revenues.

Moreover commercial banks in Albania have been able to manage exposures against volatility of the yield curve, having limited effects on their net interest margins and without violating the banking soundness.

However, in order to close the inflation gap due to the pandemic, the assessments show that the balance sheet of the Bank of Albania must go up by 58%, or ALL 365 billion (referred to the assessments at the peak of the pandemic), which would be translated in lowering interest rates by 3.7 percentage points. This would drive private investments and consumption up, while being accompanied by only a 1.5% increase of production.

On the other hand, the decreasing interest rate will be followed by an increase in lending by almost 18.4%, thus driving and stimulating the economy. In this scenario the effects that the changes of interest rate would have on the exchange rate through UIP (uncovered interest rate parity) are not accounted for. We must underscore that these results must be carefully interpreted since they are based on linear models, which do not consider the asymmetry of the effects when policy regimes change, as well as their period of evaluation is followed by far-from-zero interest rate.

As was previously mentioned, among the main restrictions that results from purchasing government securities through expanding the Bank of Albania's balances sheet, is the violation of the stability of public debt to GDP. A revaluation of the empirical model presented by Shijaku (2012)[18], which takes into consideration only 2020 economic growth forecasts, at -10% and -5% level, showed that the debt to GDP ratio is expected to increase within the 75%-95% range. These figures show that the public debt, while economic activity is declining, will constitute an added element of risk.

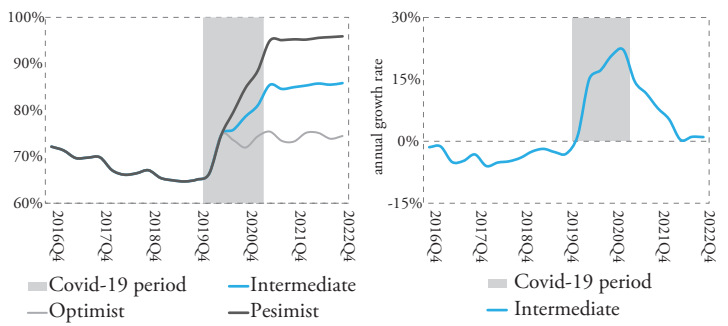
[18] *Refer to Shijaku (2012), "The stability of the public debt in Albania".*

This effect accompanied by the expansion policies of BoA' balance sheet through purchasing public debt[19], would negatively affect the stability of long-term public debt. Furthermore, the high increase of public debt, exceeding 60%, designated as a threshold for emerging countries based on the Maastricht Treaty, would be followed by an increase of risk premia, which is costly to the economy.

One of the biggest apprehensions from purchasing government securities, is the increase of inflation, the depreciation of domestic currency, and the increase of debt servicing costs in foreign currency, which through spiral effect would have a further impact on the economy.

In conclusion, expansionary monetary policies which are based on expanding the central bank's balance sheet through purchasing government debt securities, are costly and hardly adequate, since they may be injurious to both public debt sustainability and public trust on central banks and domestic currency, and the financial system as a consequence.

Figure 3 Predictions of public debt to GDP ratio, 2020 Q3 - 2022 Q4



Note: Author's calcualtions based on the model assessed by Shijaku (2012).

[19] *Which would increase the debt stock by 81% in 2020, taking into consideration only the accounting effect of the debt increase.*

II.2. THE EXCHANGE RATE AS A MONETARY POLICY INSTRUMENT

Using the exchange rate (in other words interventions in the foreign exchange market) as an instrument to achieve the monetary policy objective is broadly discussed in both the theoretical and practical concept of monetary policy. This is valid when interest rates have approached the zero lower limit and the financial conditions are such that further easing of monetary policy is needed, while the country experiences a relatively long and deep recession and/or the performance and expectation of inflation fluctuates significantly below the objective of central bank.

Based on the experience of the central bank of Japan (2000), various authors have suggested that the monetary authority may intervene to temporarily weaken the domestic currency, until inflation and real economy are stabilised.[20] This policy has been applied and has also been widely adopted by some central banks as in the case of the central bank of Israel and Czech Republic (2013).

In all these cases, the objective of the interventions has been to curtail the appreciation of domestic currency, by purchasing strong foreign currency in the foreign exchange market. Purchasing foreign currency in the market increases the country's foreign reserves and the monetary expansion in domestic currency, expanding central bank's balance sheet with the equivalent of the value of transaction. In this angle, foreign currency purchases may be deemed balance sheet policies.

II.2.1 The exchange rate as a monetary policy instrument in the experience of the Bank of Albania

The forthcoming discussion will focus on using exchange rate as a monetary policy instrument within the framework of inflation targeting. The Bank of Albania operates under a free-floating exchange rate regime, which signifies that the value of this nominal indicator is determined by the market on the basis of demand and

[20] *See McCallum (2001), Svensson (2001), Borio, Disyatat, Zabai (2016), and Stone et al. (2011).*

supply for foreign currency, which is beyond the Bank of Albania and independent from its interventions. The interventions[21] of the latter in the foreign exchange market are limited, and their objective is to achieve an optimum level of foreign currency reserve, address distortions in the foreign currency market, and fulfil the goals of monetary policy or financial stability, in all those cases deemed necessary to intervene for these objectives in the domestic foreign currency market. "Distortion"[22] signifies an immediate and significant change of the exchange rate, which cannot be explained by the performance of the main macroeconomic indicators of the economy or "fundamental factors," as are commonly known in the banking locution, to that amount that hinders the normal functioning of the market.

For example, a depreciation of the exchange rate that halts/freezes the foreign currency trade consists of an event that is considered a distortion. A more complete discussion on the role of the exchange rate in an economy with a targeted inflation regime and its relationship with the monetary policy is included in the research material by Tanku, Vika and Gjermeni (2007), Vika et al. (2016), etc.

II.2.1.1 To what degree should the Bank of Albania, given low interest rates, intervene to reach the inflation target?

The preceding chapters provide a complete and illustrated description of using the exchange rate as a monetary policy and operational instrument by the Bank of Albania, given a flexible exchange rate regime and targeted inflation regime. As was highlighted in Chapter

[21] *The interventions are determined in Regulation No. 80, dated 16.12. 2020 "On the intervening procedures of the Bank of Albania in the domestic foreign exchange market".*

[22] *In accordance with Regulation no. 80, dated 16.12.2020, distortions shall be the following: (1) lack of liquidity, as a result of which trading partners have difficulties in exchanging lek to foreign currencies and are unable to maintain open positions, thus endangering their withdrawal from the market; (2) the unjustified increase in the pace of change in one direction and the exchange rate of domestic currency against foreign currencies, or the increase of volatility of the exchange rate of domestic currency against foreign currencies; (3) the widening of the difference between purchase price and sales price of the domestic currency against foreign currencies, which are quoted in the foreign currency market; (4) the concentration of demand and supply in one or few market participants, accompanied by an decrease in the volume of activities carried out in the foreign currency market; (5) the breaking down of the function of foreign currency circulation from its suppliers to its customers.*

4, the pandemic brought to the fore the central bank's balance sheet as a new concept and instrument for the implementation of the monetary policy, given zero or close to zero interest rates. This instrument ensures that a considerable amount of liquidity is thrown into the economy. One way to ensure this expansion is increasing the level of net foreign currency instruments in the central bank's balance sheet through purchasing foreign currency in the foreign currency market.

The forthcoming analysis aims to discuss this scenario in order to comprehend the potential degree and effect of such an undertaking.

To use the exchange rate as a monetary policy instrument based on the expansion of money, and given low interest rates, the purchasing of a substantial amount of foreign currency is required, in order to close the inflation gap. Consequently, the discussion starts from determining the approximate level of the necessary intervention and further analyses its potential effects on the economy.

Simulations of exchange rate shock (assuming that exchange rate depreciates) in the MEAM macro-model[23] show that the change of price of imports and exports is close to half of the exchange rate depreciation shock. At the same time, a weaker exchange rate drives economic growth in the country by around 1/6th of the shock, which is realised more through putting a stop to imports rather than encouraging exports.

Also, the impact of exchange rate on consumer prices appears not full and modest, reaching 10-15% of the shock within five quarters. On the other hand, due to the high euroisation of financial means and obligations of households and the private sector, the implication of a weaker exchange rate must be closely observed in regards to the financial stability. Empirical studies and analysis suggest that the depreciation of lek by 10% may exacerbate the non-performing loans ratio by 1.7 percentage points within a two year time frame[24]. However, in spite of the significant relationship with the exchange

[23] *The simulation refers to the macro-model reviewed with the data until 2012, publication of 2016.*

[24] *Based on empirical findings by Dushku & Vika (2011) on the macroeconomic effects on the bank lending quality as well as by Ceca & Shijaku (2012) and Kalluci & Kodrza (2011).*

rate, the performance of NPL following the global crises when lek weakened by 13%, showed that the Albanian financial system may withstand similar exchange rate shocks. This is confirmed also by banks' stress tests realised periodically by the Financial Stability Department of BoA, with scenarios that are even more severe than the observed performance.

The moderated reaction of general inflation is in line with the assessments on the reduction of exchange rate transmission to trade prices and the formation of prices, domestically, over the past two decades.[25] Assuming that the weaker exchange rate will not trigger a monetary policy counter-response, the transmission channels by means of inflationary expectations, falling real interest rates, and a weaker real exchange rate may amplify each-other and increase the efficiency of the unconventional policy exercised through controlling exchange rate positions.[26]

Thus, what would be the required size of interventions in the foreign currency market? In this case the main restrictive considerations would depend on the negative effect of exchange rate on financial stability due to the high level of euroisation of bank lending.

Let's assume that financial stability may withstand, without incurring high costs, a 10% lek weakening (which represents a considerable shock of financial stability stress test). Stemming from the above empirical studies on the relationship between prices and the exchange rate, a 10% exchange rate shock may cause an increase of inflation by 1.5 percentage points, helping to approach the actual trend with the 3% target. The empirical estimations based on the theoretical monetary approach of the exchange rate show that the M3 aggregate shock of 1%, distributed throughout the first year, may engender a depreciation of lek, which reaches its maximum by 0.4% beyond

[25] *Refer to the research studies conducted by Vika & Rama (2017) on the negotiating might of Albanian producers in foreign commerce; Skufi & Çela (2017) on the imported inflation of consumer prices and its contribution on total inflation; Tanku, Vika & Gjermeni (2007) on the significant reduction of exchange rate transmission after 2002; and Vika & Hoxholli (2015) on timely changes of the exchange rate transmission.*

[26] *Although inflationary expectations are historically dominated by the adaptive nature, Çeliku etc. (2016) it is found that some of them have gained rational virtues over the 2010's, which may increase the possibility of the efficiency of monetary easing through a weaker exchange rate.*

basic prognostications at the end of the first year, while the effects of the shock continue to dissipate in the last quarter of the second year. [27]

This signifies that the depreciation of lek by 10% resulting from purchases in the foreign currency market, may require a higher increase by 25% in the broader money, or in other words, purchasing around EUR 2.4 billion (approx. ALL 352 billion) of foreign currency. These results must be corroborated also by the research analysis on the motivation and efficiency of interventions in the foreign currency market in Albania.[28] Intervention at an amount of EUR 2.4 billion represents almost two-thirds of foreign currency reserves at end of 2020, and it is a considerable amount that would drive imports down by 1.6%, directly influencing consumption and investments, as well as it would affect bad credit increasing it by 1.7%, which despite being affordable, it would exacerbate banking soundness indicators and private sector's balance sheet, by indirectly providing an unfavourable impact on the increase of credit. At last, taking into consideration the structure of public debt, almost half of which is in foreign currency, the Bank of Albania's intervention to depreciate the domestic currency by 10% would have a direct and forthwith accounting effect, increasing public debt to GDP by 3.6 percentage points.[29]

If the financial stability restriction were to be substituted by fulfilling the price objective, the effects would be even greater. According to the exercise above, if the Bank of Albania would intervene in the exchange rate to return inflation to target (assuming that inflation is currently around the 2% average of the previous decade and we exercise a linear shock), without referring to the other indicators of the real economy such as production and employment, an almost thrice as hard shock on consumer prices is required, which indicates purchasing an equivalent of EUR 15-18 billion in the foreign currency

---

[27] *The equations are built according to the monetary approach, where developments in the exchange rate are determined by the relative increase of money M3, the relative increase of GDP, as well as the difference of interest rates (i.e., comparison between Albania and the Euro area).*

[28] *Refer to publications by Vika (2016) on the efficiency of the intervention of central bank in the foreign currency market.*

[29] *Estimated based on the statistics until end of 2020.*

market. An extraordinarily high number with a considerable effect in falling imports and increasing NPLs and, consequently, with negative adverse reactions in consumption, investments, financial stability, and public finance sustainability.[30]

Furthermore, the empirical studies such as those by Bahmani, Miteza, Tanku (2020) and Shijaku (2016) on the effects of the exchange rate on money demand, show that exchange rate depreciation engenders a fall in the demand for money in lek. This indicates that inciting such a large depreciation is highly probable to cause an ever larger decline in money demand and drive euroisation up, causing an opposite effect from the one intended.

In conclusion, both exercises demonstrate that undertaking balance sheet policies in order to stimulate the economy is costly and perilous, illustrating the conclusions of chapter three. Consequently, the preceding analysis shows that adjusting or adapting the monetary policy to accommodate central bank's balance sheet policies, through purchasing government securities or increasing net foreign currency means through purchasing foreign currency in the exchange rate market, would not be optimal since they demand a resolution with potentially strong and negative side effects to the economy and financial stability.

In conclusion, the decision-making of the BoA during the pandemic has been optimal as it included all the necessary instruments without damaging the long-term equilibrium of the economy. The subsequent economic performance expressed in the indicators on both economic growth and financial soundness of the banking system, display that this decision-making has been successful.

[30] *The scenarios laid out above and the results derived from them, mostly represent the intuition and the main channels of transmission of shocks to the main macroeconomic indicators. Nonetheless in the future, these effects must be carefully assessed, taking into consideration the new macroeconomic environment, the non-linearity of indicators, the adjustment of policies pre and post COVID-19, the evaluation of heterogeneity between various economic agents etc.*

REFERENCES

Bahmani-Oskooee, M., Miteza, I. and Tanku, A. (2020) "Exchange rate changes and money demand in Albania: a nonlinear ARDL analysis," Economic Change and Restructuring, Springer, vol. 53(4), pp. 619- 633, November.

Borio, C., Disyatat, P., dhe Zabai, A., 2016, Helicopter money: The illusion of a free lunch, May 2016, is accessible in the following link: https://voxeu.org/article/helicopter-money-illusion-free-lunch

Ceca, K. & Shijaku, H. (2011) "A credit risk model for Albania" Bank of Greece Special Conference Paper, February 2011.

Boka, M., Çeliku, E., Hashorva, G. (2016) "Are Inflation Expectations in Albania Rational? Empirical Evidence from Surveys Data" Bank of Albania, Working Papers 23 (82) 2016.

Çeliku, E. (2019) "Inflation expectations versus uncertainties and time horizons: the case of Albania" Bank of Albania, Economic Review 2019 H1.

Dushku, E. & Vika, I. (2011) "VAR analysis of macroeconomic effects on bank loan quality in Albania" Bank of Albania, paper presented at the 5th SEE Economic Research Workshop, 10-11 November 2011.

Dushku, E. & Kota, V. (2013) "The financial model for Albania: A panel data approach", Bank of Albania, Working paper 14 (73) 2013.

European Commission (2018), Quarterly Report on the Euro Area, Vol 17, N4, and Chapter I.

IMF (2017), "Greece: Request for Stand-By Arrangement", Press Release, Staff Report, and Statement by the Executive Director for Greece.

Jensen, L. (2021) "Sovereign debt vulnerabilities in developing economies. Which countries are vulnerable and how much debt is at risk" UNDP Development Futures Series Working Papers, March 2021.

Kalluci, I. & Kodra, O. (2010) "Macroeconomic determinants of credit risk: the case of Albania" Banka of Albania, in A. Fullani, Economic Policies in SEE: Design, Performance and Challenges (Tirana, 18-19 November 2010).

Dushku, E. & Kota, V. (2011) "A Bayesian estimation of a small structural model for the Albanian economy" Bank of Albania Working Paper 04 (27) 2011.

McCallum, B. (2001) "Monetary policy analysis in models without money" NBER working paper no. 8187, March 2001.

Papavangjeli, M. & Leka, E. (2016) "Micro and Macroeconomic determinants of net interest margin in the Albanian banking system 2002-2014," Bank of Albania, Working paper, and 2016.

Sejko, G. & Dushku, E. (2018) "The Economic growth for Albania: New evidence," on Studies on the Banking System and Economic Developments, Ed. Sejko, G., Bank of Albania, Tirana, 2018, ISBN 978-9928-262-11-0.

Shijaku, G. (2012), "Sustainability of Fiscal Policy: The Case of Albania", Bank of Albania, Working Papers 06 (56) 2012.

Shijaku, G. (2016) "The role of money as an important pillar for monetary policy: The case of Albania" Bank of Albania, Working Papers 15 (74) 2016.

Skufi, L. & Çela, E. (2017) "Imported inflation goods and its contribution to the national inflation" Bank of Albania, Working Paper 31 (70) 2017.

Skufi, L. & Kika, E. (2019) "The Price Formation Process in the Albanian Economy: A Macro Modelling Approach" Bank of Albania, Working Paper 38 (77) 2019.

Skufi, L. (2020) "Financial sector and macroeconomics links in MEAM" Bank of Albania, Working Paper 42 (81) 2020.

Stone, M., Fujita, K., and Ishi, K. (2011) "Should unconventional balance sheet policies be added to the central bank toolkit? A review of the experience so far" IMF Working Paper WP/11/145.

Svensson, L. (2001) "The zero bound in an open economy: a fool proof way of escaping from a liquidity trap," Bank of Japan's Institute for Monetary and Economic Studies, vol. 19, no. S-1, February 2001.

Tanku, A., Vika, I., Gjermeni, M. (2007) "The role of exchange rate in targeting inflation, what is the course of action?" Bank of Albania, Working paper in November 2007 2007.

Tanku, A. & Vika, I. (2020) "What drives the real lek-euro exchange rate fluctuations?", Bank of Albania, Working Paper 42, 81 81) 2020.

Vika, I. (2016) "Motives and effectiveness of foreign exchange interventions in Albania", Bank of Albania, Working Paper, 25 (64) 2016.

Vika, I. (2018) "Practical issues in forecasting with vector auto regression" Bank of Albania, Economic Review, 2018 H2.

Vika, I. & Hoxholli, R. (2015) "On the exchange rate transmission in domestic inflation" Bank of Albania, internal unpublished analysis, undertaken in the framework of the research project: "Monetary policy transmission mechanism in Albania."

Vika, I. & Luçi, E. (2011) "The equilibrium real exchange rate of lek vis-à-vis euro: is it much misaligned?" Bank of Albania Working Paper 07, 30 81) 2011.

Vika, I. & Rama, A. (2017) "Pricing to market effects in Albania: How competitive is the external sector?" Bank of Albania, Economic Review 2017 H2.

Vika, I., Skufi, L., Çela, E., Abazaj, E. (2016). "Re-estimation of the Macro-econometric Model of the Albanian Economy (MEAM)" Bank of Albania, Working Paper 22 (81) 2016.

Vika, B and Vika I. (2021) "Forecasting Albanian time series with linear and nonlinear univariate models", Bank of Albania, Working paper, 47 (86) 2021.

CHAPTER VII:
THE FUTURE OF CENTRAL BANKING

I. INTRODUCTION

We all expect the end of the pandemic hoping to returning to normal life, across all its dissensions. While yet not feeling completely free thanks to the vaccination, the frequent mutations developed by COVID-19 virus have driven to new variations which spread swiftly, more easily, and which are rather resilient to the vaccine. Furthermore, in the fall of 2021, the energy crisis turned the next global concern, coupled with the considerable and fast upsurge in prices. Now, this energy crisis amplified from the pandemic shocks on the global production and supply chains has become a concern and calls for the next attention and response from the monetary and financial authorities.

Currently, this crisis has given its effects, which are larger and broader than the increase in energy prices. They have been disseminated across all consumption basket items, by affecting and increasing the overall level of prices, which is also the main objective of central banks. Hence, these developments, and their direct and indirect effects are at the centre of discussions and policies of economists and central banks. Nevertheless, the crisis in energy market or crisis with similar nature in other markets and products, are so far neither unexpected nor unknown to the decision-making authorities and academics.

In practice, economic languidness more than one year and half in a pandemic situation, including all the health issues, restrictions on both activity and mobility for containing the pandemic and social distancing, negative effects on production, employment and income, increased health spending, coupled with the concerns and strengthened uncertainty, have generated a considerable shock on the production structures and global supply chain. Most activities have been revised, re-dimensioned and transformed, driving to a chain effect on the related activities.

Changes imposed by the pandemic and the closure of traditional markets (implying the increased demand for products related to the pandemic, the need for the creation of new platform to adopt with the new life and work over the pandemic period, the fall in the demand due to the disruption of activities) has shifted financing, production factors and natural sources from certain traditional markets, by orienting them towards the emergent needs related to the pandemic. In extreme cases, the bankruptcy or the extended closure of activities have driven the producing capacities disappear. These developments and the shortage of activity in the other links of production chain have established considerable deficits in certain goods and services, driving to the shutdown of production lines. Against this negative supply-side effects, the pandemic imposed an expansionary policy making, while in turn governments and central banks (mainly central banks) undertook unprecedented steps, as shown in the previous chapters on the monetary policy of central banks, with a view to help economy have extraordinary liquidity amounts, by expanding the balance sheets of banks beyond limits ever imagined. These interventions coupled with the large amount of liquidity in economy succeeded to support aggregate demand. Essentially, the purpose of both expansionary policies and social support policies, in the pandemic situation, was to enable family consumption even in circumstances where there was a fall or loss on income from work. In these conditions, most of aggregate demand was supported by the monetary expansion, increase in government and private sector (businesses and households) debt, which have to re-dimension in long-term stable levels, once these policies turn back to normality.

Academics, economic and financial authorities knew that the mix of decreased supply, given that the monetary expansion supports the demand - sooner or later will be associated with increased inflationary pressures, and maybe with negative effects in the labour market, and further, potentially problems to fiscal and financial stability of both private sector and entire financial system. For these reasons, and many others, the entire production and financial structures should be adjusted and will pose difficulties and problems to the prices of products. The discussions among authorities and academics do not concern the probability on the occurrence of these events, but on the period when they are expected to happen, and whether the effects of increased prices will be either a short-term episode or a transitional one, that could last longer.

Disequilibrium of the demand and supply, and consequently the jump of prices in energy market, currently will put central banks on test, causing inflation, while in the second wave, coupled with the unemployment, would drive to stagnation, and perhaps in other negative effects in economy and finance. Central banks are aware in this regard and prepared on macro-economic and financial issues that this new reality will bring about. This preparation implies that notwithstanding the size, the simultaneous shocks and implications they trigger, these issues are known and studied, and the central banks have the legal, regulatory, institutional capacities and instruments to fight against them. First and above all, they fall under the mandate of central banks. In addition, banks during this long period have established a solid expertise based on long-time series, macroeconomic and theoretical models to assess and fight these phenomena, notwithstanding the shock that may occur.

But, the history of energy, output and prices is broader than the effects, which were pronounced by the pandemic. Beyond the difficulties originated by the pandemic, the energy market has reflected problems related to development and adoption, re-orientation and re-positioning or approach of society to climatic and environmental transformations that the planet is experiencing. Thus, the priorities of society have shifted in favour of preserving the environment and climate changes, which are considered a new challenge to humanity: global warming and climate related issues. These phenomena,

which have put under pressure the ecological systems, are harming biodiversity and the production and vital capacities of ecosystems where our existence is based on, thus driving these climate issues turn into a quite important challenge to humanity, calling for new solutions and a drastic adjustment of our way of living and of our societies development. In addition these phenomena so far have neither been nor considered as a part of the overall equation of the economic and financial decision-making, but they cannot be avoided. In the last years, developments and catastrophes have made clear that environment has a crucial role in the overall macroeconomic and financial stability.

Also, our society, like the ecology and environment, is facing challenges originating from innovation and the application of new technologies in the financial intermediation field. In concrete terms, digital innovation and the new payment methods have driven to a revolution in the creation of new financial instruments out of the current banking and financial systems, infrastructure, oversight, control and regulation. Their use has been increasing swiftly, by generating both interest and benefit to the users. The market and society have embraced the latter enthusiastically, and maybe with a little naivety, making them a fact with both direct and indirect effects in the existing systems. Although unregulated, trade, investments and speculations in these instruments have become part of the formal activity of economy and finance. These innovations have the capacity to revolutionise finance, but at the same time, bear the possibility to cause enormous damages to economic agents. In this view, they have triggered new challenges to each central bank and supervisory authority, which are trying to know and experiment with these phenomena, and understand how to respond to these developments.

Nevertheless, digitalisation is only a small part of the vigorous technological development, which is leading to a revolution in the labour market as well, by replacing the labour force with the amortisation and application of artificial intelligence. This has driven an ever increasing number of processes taking place without the physical intervention of a traditional worker. The new technology fulfils the main duties and carries out processes with such

a correctness and efficiency that the human being cannot perform. Professions, once considered as irreplaceable, are being replaced by technology every day. Simultaneously, the advanced communication and transport technologies favour the production in one country and their rapid distribution and at minimum cots throughout the world. These positive developments have put under pressure the labour markets and the capacity of our societies to provide secured and sufficient employment.

This trend appeared after a period when the progress of society and economic development models were focused on industrialisation based on the increase of labour force. Industrialisation, which was responsible for the development of the advanced economies and the exit of Eastern and east-southern Asian countries from poverty, is not a guaranteed option (SPence 2020). Work places and production were largely based on the labour force of the generation which traditionally is called "Baby boomers", but this generation is approaching the retirement age. This drives the society to spend more for retirement and on the attention required for the ageing of population. These and other dominant development trends of both family and population turn demography into one of the main challenges that the society is facing, and consequently macro economy and finances as well. If these developments are not considered and no long-term solutions are found, they may put the society of each country under a large and unaffordable stress.

These challenges are present in advanced and emerging countries. The latter, though having a young population, are mainly affected by the negative effects of labour and intellectual force migration to advanced countries. Furthermore, technology coupled with demography has considerably impacted the reallocation of income and increase of disparity, by more deeply emphasizing their negative impacts.

On the other hand, financial education and financial inclusion are considered as the two main obstacles which hamper the economic progress of households and societies or as the main obstacles to exit poverty. Theory and practice have demonstrated in many cases that the lack of financial knowledge and possibilities hamper the break

of poverty threshold and the path towards financial prosperity and independence. Hence, this turns into an educational and institutional challenge to the development of financial markets and products that may include and supply services and products, and in turn, possibilities for every level of society. This last challenge benefit the central bank, as it strengthens and accelerates the processes and mechanisms of monetary policy.

In this last chapter we will address these challenges, the role and contribution that central banks and financial system may offer in this regard.

II. TECHNOLOGY AND DIGITALISATION ARE THE FUTURE, BUT ARE PART OF IT AS WELL PRIVATE DIGITAL CURRENCIES AND THOSE OF CENTRAL BANKS?

At first glance, it seems that the Covid-19 pandemic has shifted the attention of public away from the financial technology (FinTech) developments and the academic efforts to look at the effects of a national electronic currency. Beyond the health concerns triggered by the pandemic to the society, entrepreneurship and institutions, financial technology (FinTech) has remained a transforming power on the way households and enterprises interact with money and the financial products. Cryptocurrency, or differently known as "digital currency" is one of the most advanced and discussed products. The first currency of this type, Bitcoin, aimed at fundamentally challenging the financial architecture, while competing closely with the national currency as a traditional means of exchange, as a guard of its value and as a measurement unit, beyond the limits and control of national or international authorities. The technology this cryptocurrency presented in the market - beyond the challenge to national and international monetary authorities - is assessed as a new possibility for transforming the payment system and the entire financial industry.

Cryptocurrencies are described as an alternative to obtain independence from cash. But, to this end, cryptocurrency is not

needed in this regard, as this is realised by the existence of electronic money, which enables a cashless world through the existing financial instruments. Electronic payments or electronic money are a group of various instruments which are known to and applied by the public and the suppliers of financial services, for example: e-banking, credit and debit card; payment system accounts, for example: paypal, easy-pay; payments through mobile; etc. These existing types of electronic money enable either directly or through systems supplied by the private sector, the conduction of payments and other transactions through the internet connection without the physic presence of financial intermediators. In this view, the existing types of electronic money are not different from cryptocurrencies. Nevertheless, in contrary to cryptocurrencies, the current types of electronic money are computed with the money issued by public authorities. It means, that each monetary unit used in the form of traditional electronic currency is money which is issued from the sovereign authorities, an obligation of sovereign institution that issue them. In different words, they serve as an instrument to pay in the national currency issued by the central bank. They are connected to the accounts of households in the banking system and are channelled through the traditional system of payments, where the whole unit of these instruments is regulated and monitored by the financial institutions and public authorities.

In contrary to these types of money, cryptocurrencies are a non-guaranteed liability of private issuers, which are neither regulated nor monitored by authorities; the payments are channelled out of traditionally regulated and supervised systems, by pretending to minimise the cost and time of transaction, and above all, to guarantee the anonymity of payments, payers and payees. These are essential differences from the current types of cryptocurrencies or alternatively called digital money.

In the first years of cryptocurrencies appearance, there was a silent consensus that the lack of a sovereign guarantor should be a sufficient signal that cryptocurrency remain out of both public and authorities' attention. In view of this perspective, the globally influencing stakeholders in financial industry focused their attention on the blockchain algorithm technology of Bitcoin and its potential

to improve the payment systems. Now, a decade after the first presentation of the cryptocurrency Bitcoin, public curiosity why these cryptocurrencies issued in a private manner continue to survive in the market, though they are not guaranteed and not monitored, raise other questions about the traditional role of financial intermediaries. The development of the private digital money industry with products like stablecoin, has driven sovereign authorities and international institutions to reach a new consensus that this digital industry may potentially affect the entire financial system, beyond the payment system.

Although, it is difficult to foresee how this industry will evolve in the next decade, in this part of this Chapter, I will address the challenges to the central bank given the increased role of financial technology products and services. Currently, the spread of FinTech products and services still remains low compared to the services and products by traditional model of financial industry. Nevertheless, the possibilities provided by FinTech makes it indispensable to address some of the problems and challenges that monetary authorities face in accommodating their positive effects and addressing the risks related to the swift developments of FinTech.

II.1. EVOLUTION OF FINANCIAL TECHNOLOGY AND CHALLENGES

The presence and success of cryptocurrencies so far challenges three important aspects, on which the existing financial architecture is built. First, the algorithms of blockchain technology on which it is built the issuance of cryptocurrency and the management of transactions is a technological invention with the potential to transforming the financial services. In particular, Bitcoin, through this technology, aims at competing in the payment service market, by claiming some advantages against the traditional infrastructure, like swift and low cost transactions. In this regard, Bitcoin and blockchain technology challenged the largest stakeholders of entrepreneurship in financial industry with their potential in payment services market. Although the current value of transactions in Bitcoin, around 300-400 thousands daily transactions, still remains low against the total

transactions carried out through traditional payment instruments. Bitcoin serves as a catalysis to the payment industry.[1] The value of total daily transactions volume carried out with cryptocurrencies has been increased at higher than USD 223 billion in May 2021, out of which 22% are realised with Bitcoin. The biggest private stakeholders in financial industry are already exploring the financial technology to revolutionise the payment industry in terms of time and costs.

Second, various types of cryptocurrencies are aimed at competing in the money market as alternative ways for maintaining the value, as means of payments, and as a measurement of value. This quality of cryptocurrencies makes them notably different from the other form of electronic money which is computed with the national currency. Bitcoin claims to break this obstacle and has already succeeded to be in the market with a market value of the Bitcoin amount in circulation of USD 1012 (trillion)[2]. In total, the market value of all cryptocurrencies in circulation has reached at above USD 2.5 trillion.

Third, the anonymous nature of transactions conducted with cryptocurrencies and the incomplete covering of FinTech activities from the existing regulatory framework make it difficult to control the illegal activities and the implementation of other policies for the prevention of illegal activities.

In the first years of its issuance, Bitcoin did not attract the public authorities and academic world. The introduction of Bitcoin in the market to compete close to sovereign money across its three roles was seen with scepticism. At the beginning, the issuance into the market of Bitcoin in 2009, immediately after the global crisis of 2008, did not make any advantage to Bitcoin cryptocurrency to increase as a means of exchange or means to preserve the value. Neither the Euro area Sovereign Debts crisis (ESDC) in 2010-2012 did evolve it and nor was accompanied by any robust increase of attention to

---

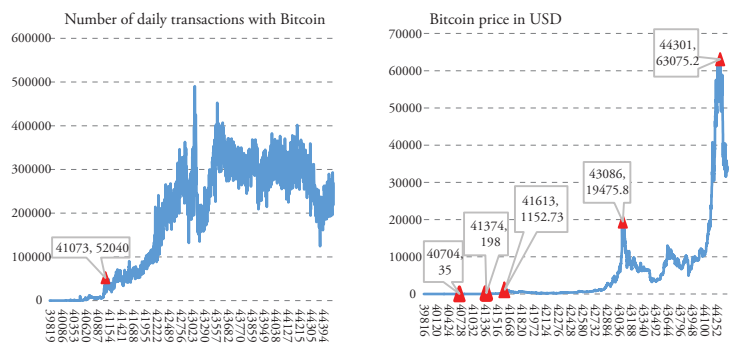
[1] *The issue of the degree, inability to multiply the number of transactions carried out per time unit or the high consumption of energy, also are some of the problems which damage the perspective of Bitcoin.*

[2] *The market value of USD 1 trillion was achieved when Bitcoin reached the value of USD 63,500 per Bitcoin. In the next months, Bitcoin price fell, and the market value of Bitcoin in circulation dropped by around USD 600 billion.*

financial technology as an alternative against the traditional market[3]. Both, the Global Financial Crisis and the euro area Sovereign Debt Crisis were mainly on the focus of the academic community in 2009-2014. Only after the securities market in euro area was stabilised, in May and June 2012, the cryptocurrency market of Bitcoin draw the attention with the immediate increase of the daily transactions volume. In June 2012, the volume of Bitcoin transactions jumped to 52.000 daily transactions against below 5000 transactions in a day in 2011, and below 1000 daily transactions during 2010. Since this climbing, the volume of transactions in Bitcoin has experienced a constant growth up to the current levels of 200-400.000 daily transactions (Figure 1).

Beyond the parallelism in a timely manner of the events, it is difficult to show a correlation between the Global Financial Crisis of 2008 or the Euro area Severing Debt Crisis 2010-2012, and the following developments in the cryptocurrency market. Nevertheless, it is evident that only after crises and the calm of financial markets, the Bitcoin cryptocurrency increased gradually in terms of transactions volume. Also, in terms of prices, isolated episodes of jump in the price of Bitcoin may have served as a magnetic force to actors that are seduced by the prospect of quick gains. In some of these various

Figure 1 Volume of transactions and price of Bitcoin



Source: https://www.blockchain.com

[3] *Only in the middle of 2012, the number of transactions in Bitcoin reached at USD 10.000 and the Bitcoin price increased at USD 5 per Bitcoin, while the market value of Bitcoin amounted around USD 46,000,000 at the end of 2012.*

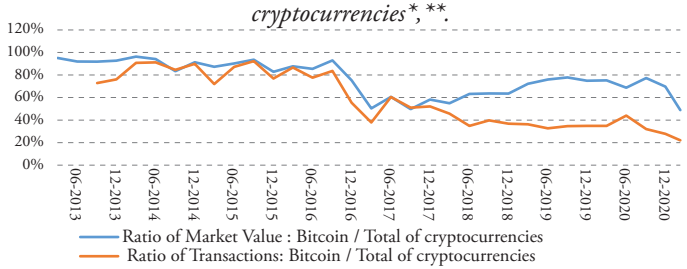
episodes, the price of Bitcoin jumped by 300-400%, by creating the illusion of fast gains though the number of persons benefiting gains is similar to the number of those that lose from such fluctuations in prices.

The reasons behind the success of these cryptocurrencies may be assessed both as legal and in breach of the legal and regulatory framework. In one hand, the need of market for cheaper, faster forms of carrying out payments without the need of financial intermediation, far from the monopole of the current payment systems and monopole of central banks, gives the real value to these cryptocurrencies. Though, part of these advantages maybe realised also from the digital platform of payments which are provided from the giants of technology, as either a separate part or complementary part of the existing platforms. On the other hand, the increased demand for these currencies is enabled from illegal activities, such are the absolute degree of anonymity, which enables the space for the activity of money laundering, trading of arms or narcotics, and the financing of terrorism.

What remains from these episodes in a long-term horizon is the chain effect they have in urging other actors to adopt the blockchain technology and to issue other cryptocurrencies, with a variety of functions which increase and diversify the gamma of FinTech products and services. Since the beginning of 2014, an increasing number of currencies started to appear in the market. This trend continues also nowadays. Though hundreds of them have failed in the market and some other hundreds have been issued in recent years. Notwithstanding this competitive dynamic in crypto industry, nowadays the number of cryptocurrencies and private cryptocurrencies in circulation is some thousand. As a result of their high competition, an increasing number of cryptocurrencies are successful and are used in the conduction of transactions. Thus, the percentage of transactions carried out through Bitcoin is around 22% of total transactions that are carried out through the most used 19 cryptocurrencies in the market. This level is a significant contrast to the period 2010-2014, when 90-95% of transactions in FinTech industry with currencies were carried out through Bitcoin. This relative fall in the use of Bitcoin, also noted in the real value

of market, is a result of the very fast increase in the use of other cryptocurrencies (Figure 2).

Figure 2 Share of Bitcoin in cryptocurrencies market. The ratio of transactions carried out with Bitcoin against the conducted transactions in the total of cryptocurrencies, **.*



**Already, it is evident that to national public authorities, particularly, central banks, this success of an increasing number of cryptocurrencies raises fundamental questions on the future of money in the digitalised global economy. The further success of cryptocurrencies potentially causes problems to public authorities, and particularly, to financial industry, that fundamentally affect the architecture of financial industry.*

***Total of cryptocurrencies is composed of 19 cryptocurrencies with a higher market value and the largest number of transactions.*

Source: https://www.blockchain.com

Though at low dimensions, crypto assets tend to substitute cash or financial assets which are computed into national currency, by breaking into fractions the existing financial system, thus harming the present payment infrastructure and being converted into financial assets and instruments able for investments. This penetration of cryptocurrencies into: the existing financial architecture; investment portfolio; and payment systems; has attracted the attention of financial authorities and central banks, which have started to think about the regulation of these markets and about the concept of central banks digital currencies.

In view of these problems, the approach of authorities focusing on the regulation of cryptocurrencies market and the activity of enterprisers is the main challenge to authorities. These types of digital payments and currencies may pose problems to financial stability, when they are broadly spread and they do not have a long-term perspective. Promotion of risk minimisation from the increasing exposure to cryptocurrencies and payment networks with crypto assets demand them to be regulated, first in terms of financial stability, both in their original form and in their instrumentalisation as tradable assets in the financial market. Their regulation turns indispensable also in view of consumer's protection. The high exposure of consumers to

cryptocurrencies injects a high risk level and volatility in the portfolio of their assets. Also, another concern is that the massive dissemination of these cryptocurrencies and the removal of national currency may decrease the transmission power of monetary policy to the loss of control on money supply in economy, and of monetary policy instruments. Absolutely, the role of monetary policy instruments is crucial for mitigating economy volatilities. Nevertheless, some forms of cryptocurrencies which anchor their value on the domestic currency, like Stablecoin computed in value with the national currency of an economy, may improve the payment systems and strengthen the role of monetary policy. Consequently, in these conditions, the presentation of a digital currency of a central bank would compete with the private alternatives and would establish the premises for a more effective monetary policy transmission.

In fact, sovereign authorities in advanced economies seem to pursue an investigating approach on various versions of central bank digital currency (Boar & Wehrli, 2021)[4]. The sovereign issuing authorities of money in advanced economies with global influence have an attentive and prudential approach in the communication with the public on the possibility of their presentation. Also, international institutions have a similar tendency, neither excluding the possibility of the presentation in the future of digital national currencies by sovereign authorities of various countries, nor the need for a regulation of the activity, which affects crypto-assets in the future. The arguments for a prudential approach in this regard are the need to promote increasingly FinTech innovative products which strengthen the productivity in the financial system, and to best calibrate the regulatory framework focused on risks minimisation.

However, international institutions and public authorities have focused their approaches on national currencies, thus the regulation of FinTech activity means exploring spaces in both directions[5].

---

[4] *An annual BIS survey on central bank digital currency has shown that: ". ..central banks are now exploring the case for CBDCs in some way and, overall, the survey indicates a continuous move from purely conceptual research to experimentation and pilot project." (See conclusions on page 14, Boar & Wehrli (2021)).*

[5] *On a broader summary of international approaches in terms of assessment and regulation of FinTech activities, see the research paper of the Bank of Albania, Hoda (2019). For a broader list on the Bank of Albania's research papers on financial technology, see Ahmetaj et al. (2019) And Ahmetaj et al. (2021).*

(i) The international institutions: Financial Stability Board (FSB) and Basel Committee on Banking Supervision (BCBS) have a coordinating role for the national supervisory authorities related to the regulation of FinTech industry market. Legal and regulatory framework of economies aim at converging towards the core principles proposed by these institutions and thoroughly accepted by the financial authorities across countries with an economy of market. Currently, the focus of these institutions is on:

(a) monitoring risks to financial stability and the quantitative assessment of cryptocurrencies in the banking system;
(b) drafting a register of regulators which cover the activity of crypto-assets at national level and of international organisations engaged in the monitoring of this activity;
(c) defining guidelines to address exposure of banks for the purpose of banking prudence.

Also, other institutions, as: Financial Intervention Work Group (FIWG), Payments and Market Infrastructure Committee (PMIC), European Supervision Authorities (Komisioni Evropian, 2018), and other international institutions have been engaged in investigating the impact that the further spread of FinTech activities and of cryptocurrencies may have on the well-functioning of both financial intermediation and financial stability. Thus, FIWG insists on the attention that national authorities should have in the framework of the regulation and monitoring the financial technology activity pursuant to the present legal framework, anti-money laundering (AML) measures and against terrorism financing (ATF) (GPNF, 2021)[6].

(ii) In term of issuance of an electronic version of national currency or a Central Bank Digital Currency (CBDC), approaches are

[6] *In Document 1 of the European Commission on the revision of supervisory framework (pg. 4), the commission proposes that "European Supervisory Authorities should take into account Fintech services in their activity systemically", (European Commission, 2018). (Komisioni Evropian, 2018).*
FIWG recommendations (revised version) focus on the importance of identifying and assessing the risks on Money Laundering (ML) and Terrorism Financing (TF) in the new products and services enabled by technology (See D15. New technologies, pg. 17, updated version of electronic document in October 2021).

somewhat prudential, focusing only on investigating efforts. Monetary authorities across most advanced economies have been engaged in concrete projects, which explore the possible implications of various characteristics of CBDC architecture. Annual surveys from the Bank for International Settlements (BIS) with central banks show an increased attention of them on electronic currency, in addition to a progress from some central banks from the conceptual research stage towards the conviction that digital currency may be present in either short-term or medium-term horizon (Boar & Wehrli, 2021).

Nevertheless, while the regulation and monitoring alternative of FinTech technologies allows a gradual approach, the issuance of a CBDC is a huge jump in the way how monetary authorities would exercise their function. In theory, Fernández-Villaverde and Sanches (2016) try to address if there is equilibrium where both forms of currency, public and private ones, exist in parallel. They conclude there is at least one equilibrium where both forms of currency may exist. Nevertheless, the so far investigations show that the effects of a CBDC issue on monetary policy, financial and macroeconomic stability and financial intermediation, as an important pillar of the country's macroeconomic development, have a high uncertainty level.

To illustrate this uncertainty, sovereign authorities are coordinating the work on investigating some of sharp issues which should be addressed by a monetary authority which aims at issuing an electronic form of national currency. The possible alternatives for designing the national electronic currency architecture differ in aspects as:

(1) privacy/anonymity;
(2) access to retail payments market versus gross payment value;
(3) CBDC architecture/issuer central bank or financial intermediator;
(4) platform/infrastructure: decentralised versus centralised; and
(5) technology; electronic currency versus electronic account.

The above list of issues that monetary policy authorities - which explore the issuance of an electronic form of national currency -

do not end all their concerns. The investigation should address the implications that the issuance of a CBDC in large economies may have in small economies or also the informatics security of electronic currencies.

In addition, while the regulatory approach of FinTech industry appears to serve to financial stability, the restrictive role of an aggressive regulatory approach to innovative products may have a very high cost on global economy. Institutions, instead of an aggressive approach, may assess the potential on allowing the development of FinTech industry alongside the existing regulatory framework, and the assessment of the advantages of issuing a central bank digital currency (CBDC). In the rest of this chapter the focus will be on critical issues which have stepped back the monetary authorities, where CBCD is considered a real project.

II.2. POSSIBLE IMPLICATIONS OF CBDC ISSUANCE TO THE CENTRAL BANKING

Monetary authorities in advanced economies have not stopped their efforts to investigate the effects that possible CBDI issuance may arise. The main focus of investigation is the spaces for improving the retail payments system in the digital space, in compliance with the central bank mandate. Retail payments system can take advantage of the cost reduction of the technology associated with digital currencies. At the same time, monetary authorities can still use their monetary policy instrument by issuing a digital currency that can be converted into liquidity to the financial system or even into cash at a given fixed exchange rate. The central bank electronic currency would be a liquid and legal form of the national currency. Thus, a CBDC would be included in the liquid aggregate M1 of monetary supply, and in this view, the monetary policy could be conducted in the traditional way[7]. In fact, a positive effect of a CBDC is that it makes easer to the central bank to control the money supply. In the current financial system, if the central bank wants to alter the level of

[7] *See the document by the European Parliament Think-Tank (Gerba & Rubio, 2019) on the role of virtual currencies in the structure of money supply. The authors conclude that M1 would be expanded to include the CBDC (pg. 25).*

prices, it should make quantitative easing operations, conduct open market operations and/or adjust the short term interest rate, which is a problem if the interest rates are close to zero. A CBDC would enable monetary authorities to directly control on national currency value and to immediately impact on money supply at a statistical way. Nevertheless, an alternative assessment of BIS emphasises that a similar effect in terms of enhancing the efficiency of monetary policy transmission may be achieved also through the existing monetary policy instruments, in absence of a CBDC (BIS, 2018)[8].

The issuance of a CBDC by the sovereign authorities directly affects the monetary policy operating framework. To create a new liability at a great amount, the central bank should accumulate a secured asset. This asset would be a public security, like treasury bills and private securities or foreign currency. Each of these assets poses new risks to the balance sheet of monetary authorities. The accumulation of treasury bills would reduce the amount of this instrument available to financial intermediators. Consequently, banks would have less possibility to supply collateral to the central bank to take liquidity form the latter. Their needs for liquidity and collateral, given the massive migration of deposits towards the CBDC, would be similarly massive. On the other hand, securities issued by private companies would increase credit risk in the balance sheets of central banks, in addition to the strengthened political pressure on the central bank to increasingly accept such securities in case of needed quantitative easing, as it happened during the global crisis in advanced economies. This would somewhat affect the independence of the central bank. Third, meeting the demand for CBDC by buying foreign currency would affect the free exchange rate. Last, the accumulation of log-term maturity assets, being public or private ones, or of foreign currencies, affects the nature of central bank, which in turns acquires a transforming role of maturity and the credit risk to economy. This is the main role of financial intermediators.

The right of residents to transfer their savings or capital in CBDC of another economy is equally important. In the view of CBDC issuing countries, this right enables the possibility for a swift outflow of

[8] *The paper suggests that electronic currency of the central bank is neither a condition nor indispensable to boost aggregate demand through direct transfers to public (See section 2, pg. 8).*

capital and increased pressure on foreign exchange markets. For small developing economies, the CBDCs of advanced economies enable a faster euroization when the latter face sharp macroeconomic shocks (Carstens, 2021). The central bank digital currency formatted in electronic currency against the format as current account and issued from e reliable central bank would be more warranted in this regard. A CBDC in the form of electronic currency would turn into a strong attraction to citizens in small-open economies and with a certain level of euroization.

In these circumstances, governments of small economies would have sufficient motives to turn attentive and aim a modest influence through international institutions, in the issuance process of CBDCs from advanced economies. A possible proposal to address this concern is holding control on the use of CBDCs in residential bases and limit residents in using CBDCs only for allowed transactions. This may reduce the risk of unstable flows and the replacement of currency in economies with high euroization trend. Such restrictions would be rather similar to the current rules which regulate the opening of bank accounts from non-residents abroad.

Also, the issuance of a CBDC has the risk of an unclear and complicated impact on the monetary policy transmission mechanism and on financial stability. In event of a financial crisis, the demand for the issuance of electronic money by the central banks would replace that for deposits in commercial banks, and in turn this would pose threats to financial stability.

II.3. IMPLICATIONS OF NATIONAL DIGITAL CURRENCY FOR FINANCIAL INTERMEDIATION

The inclusion of blockchain algorithm technology proposed from the author of Bitcoin is attractive in terms of retail payments efficiency. Yet, monetary authorities share the concerns related to the implications of electronic money in the business model of financial intermediators which have stepped back when discussing on their issuance. The issue of digital or electronic currency may affect some dimensions of financial intermediation.

A judgement line in this concern insists on the possibility that the possible migration of bank deposits - a main finding source to commercial banks - towards CBDC, may drive to a contraction of lending to economy and of other forms of financial intermediation. Such a phenomenon poses strong implications to the current financial system and financial stability (Andolfatto, 2021). Direct access in the central bank's accounts would enable public at large to hold assets in electronic forms in the balance sheet of the central bank. This would drive to the need for a centralised register that enables very swift payments; all accounts would be in the same system without the need of intermediators. CBDC is potentially positive to the financial system, if allowing final consumers to have access in the balance sheet of central banks, by eliminating the intermediation costs at commercial banks. This may reduce certain risks that commercial banks not be easily bankrupted, but it would increase other alternative risks, by concentrating the intermediation activity in less actors of financial intermediation. There exists an alternative thinking opposing this thinking, that in many economies there exist relatively fast and efficient mechanisms and products that use the surpluses of central banks, without the need of the central bank digital currency to perform law value payments.

Another possible concern relates to the situation in increased financial stress, in both financial and macroeconomic crisis, when public demand for CBDC would replace the one for deposits of commercial banks. In such circumstances, all funds would swiftly flow into the central bank by jeopardising the financial stability. For supplying financial intermediators with liquid funds to replace the outflow deposits, the central bank would turn in a large financial intermediator. The presence of a safe deposit in the central bank may turn commercial banks deposits rather unstable and the effect of a small financial shock would be amplified many times faster in strong business and financial cycles. It may result in a huge instability and repeated migration of financial assets, driven by panic, towards secured forms of money, such as electronic money of central bank (Cerutti, Claessens, & Ratnovski, 2017).

Also, if bank deposits migration turns into a massive phenomenon, then the insurance deposit mechanisms risks to turn non-functional.

The role of banks may change if financial intermediators face with a strong competition in the effort to re-turn the migrated deposits towards CBDC which is issued as an obligation of central banks. This hypothetical eventuality would complicate the momentary transmission mechanism.

Last, the shift of deposits towards the central banks' balance sheet may also induce a challenge to the existing business model of financial intermediation. Financial intermediators would lose a stable and free funding source coupled with the loss of income from: payment commissions; lower stock of government securities in their balance sheet; clients 'network and other commissions benefited from the activity carried out with these clients.

II.4. PERSPECTIVE OF POLICIES ADDRESSING FINTECH CHALLENGES

Issuance of a central bank digital currency is a national choice. The realisation of such a project - independently in which economy - would transform the relationship between households, entrepreneurship, public and private institutions with money and with each other. A new equilibrium may be created not only in the financial industry, also in: public finances; central banking; and real sector; as a result of the possibility to implement new monetary and macroeconomic policies. Nevertheless, such initiatives have multiple implications to the economy. Implications of such initiatives are even more important if they are taken by the central banks of advanced economies, which in turn have potential global implications.

Central banks should continue to monitor the digital innovative developments, and analyse the possible implication of CBDCs in the fields which are crucial to the mandate of the central bank. Particularly, in small developing countries, the presence of euroization in the financial systems balance sheet induces the need for an even more rigorous assessment of implications that the issuance of a virtual currency from central banks, whose currency serves as the international reserve. In this line, the approaches implemented from FED and the European Central Bank (ECB) are important to small economies.

Notwithstanding the eventual model of central bank digital currency and the attention through legal frameworks, the designing of central bank digital currency architecture would dictate a revision of financial intermediators' role and their business model coupled as well as the role of the central bank. A well-thought architecture of digital currency would enable the maintaining of: a two-tier financial system; and the monetary policy and macroeconomic policies effectiveness to guarantee the financial stability.

Apart from all benefits and the broad embrace from the public, digital currency remains a new phenomenon which needs to be further studied and completed, in terms of conceptualisation, institutionalisation, functioning, also related to the implications and benefits to the society. Only when these costs are correctly understood and estimated from current studies or experiments, then it will be possible to have a clear decision, and perhaps, a general approval or guidance from the international monetary and financial institutions, which are permanent policy-making partners, especially in developing economies. I believe that most central banks will continue to follow with interest and commitment the developments in this field, until the formation of a widely accepted opinion and consensus, presented in the form of well-defined guidelines for the institutionalization of digital instruments and prudent policy-making and all other related issues. For small open economies, whose currencies are not instruments of international reserves, the engagement in national digital currency projects, the extent and speed of their implementation will be determined by the global position and international financial institutions, as the IMF, etc. However, digitalization and digital currency represent a technological innovation that is currently present in the economic and financial life; it has been adapted and found wide use by the public and financial institutions. The high demand for these assets has induced the creation of a new industry aimed at "mining" or collecting digital currencies. This industry that generates a significant value for "Coin collectors" has been growing, hence leaving a significant trace not only in the creation of material values, but also in the consumption of natural resources and electricity. It is estimated that the current needs for generating or collecting Bitcoin globally are equal to the energy consumption of a small economy. This fact highlights

another important aspect of digital currencies that is related to their significant ecological cost or footprint, as well as the costs borne by the environment and climate change. This link between finance and the environment is much larger and has direct implications for the central bank and its policy-making. Following, I will dwell on these implications.

III. CLIMATE CHANGES: A GLOBAL RISK REQUIRING A JOINT GLOBAL RESPONSE

Climate change perhaps is the largest threat that humanity is facing currently. This threat puts in the first place the need for urgent actions to: deploy the reasons; undertake policies and perceive instruments for slowing down the impact of human activity on climate changes.[9] The global objective established in the Paris Agreement of 2015 (maintain the increase of global temperature in this century below 2°C and limiting the further increase of temperature up to 1.5 °C". The consensus emerging from the various reports with the evidence of the facts and the scientific projections presented in them are a strong reminder to all countries that if we do not urgently take remedial action, the world will go through difficult times.

Unfortunately, it took a negative shock like the pandemic and the disruption of economic activity in response to it, for the huge environmental costs caused by human activity to become visible to the general public, and for its awareness of the impact we have on the planet to grow. After this episode, the public probably feels closer to the stance held by science, environmental groups regarding the environmental and climate damages caused by human activity. However, this is not enough to understand the full cost that the environment and climate change have on our future and economic prosperity. Currently, the discussion about climate and environmental changes focuses on changes in temperature, precipitation, and direct and indirect changes in the environments of the plant and animal world. For the analysis to be complete, this discussion must be associated to the impact that these changes in

[9] *AR6 Climate Change 2022: Mitigation of Climate Change (IPCC) https://www.ipcc.ch/reports/.*

temperature, precipitation, microclimate and environments have on production factors, production capacity, macroeconomic stability and financial stability for each economy. Fortunately, part of the economic and financial literature has begun to pay attention to the possible consequences of global warming on key macroeconomic indicators, such as inflation (Parker et al., 2018), real estate prices (Bernstein et al., 2019); Baldauf et al., 2020) and labour productivity (Zhang et al., 2018; McKinsey Global Institute, 2020), Thus, it can be said that there is still a great need for studies in these areas.

From years, central banks have been committed to the alarm of climate researchers about the risks of climate change and the need to prevent climate catastrophes. The perception that climate and environmental changes are negative shocks with high economic and social costs that directly affect the achievement of central bank objectives, has led interest and research to extend from academia to monetary institutions. These have not been limited to engaging and participating in international climate forums, but have included the climate factor in the list of key research and analysis priorities, as well as of decision-making, by setting up the network of central banks and financial supervisors named the Network for Greening the Financial System (NGFS). The purpose of this group is to study and discuss the potential negative effects of climate change on economic and financial sustainability, and to conceive and share with member banks best decision-making practices to curtail the impact and manage the climate change risks. The Bank of Albania joined the Network for Greening Financial System (NGFS) as a full member in 2020, aiming not only to benefit from researches, analysis and discussions, but also to be an active member and provide its modest contribution to this community.

Due to the complexity and uncertainty of climate event modelling, combined with the lack of data, the study to assess the effects of physical risk of climate change on financial stability or even the implementation of "stress tests" for climate risk is difficult in the early stages. Consequently, a complete and accurate assessment of the negative effects of climate and environmental change will be one of the main challenges that central banks will face in the future. Environmental and climate developments will determine and turn

into a crucial challenge for the decision-making and policy-making of central banks in the future. In this regard, for the purpose to make the right decision, central banks will have to understand and calculate with reliable accuracy the optimum limit of economic support without damaging the ecological balance, defining the necessary instruments for the implementation of this policy.

Consequently, the only approach to achieving economic objectives is for the authorities to take into account and ensure the sustainability of ecological systems that support life and economic activity, to guarantee the elimination of climate threats, and enable the restoration of environmental sustainability. The difficulty in achieving such a balance has engaged the creation of international alliances of many actors involved in social and legal accountability to climate change.

III.1. DILEMMA: CENTRAL BANK AND CLIMATE CHANGES

To start with the pandemic once again, when the world stopped for a few weeks, the environment was cleaned up and the pollution disappeared as clearly seen from satellite images of a smog-free atmosphere. This measure taken to contain the virus spread proved and made aware of the effect of economic and social activity on the nature and magnitude of the environmental damage caused by human activity. But this temporary environmental improvement caused a tremendous human and economic cost. In this sense, the pandemic illustrated with a clear example one of the greatest dilemmas facing humanity. If we want clean nature and environment coupled with a stable climate, should we stop economic activity and bear the huge cost?

Finding this balance, which on appearance is perceived as a political decision-making, is in fact an economic decision-making based on financial cost-benefit analysis. This is a task of economics and finance, through which this discussion reaches to the central bank and the financial system. In simple words, through a concrete example, boosting the economic activity through monetary policy in the current conditions and technologies can be accompanied with

environmental pollution and all the negative consequences that come from it. The accumulation of these consequences in the long term has a negative effect on production capacities and increasing living costs, through pollution and depletion of resources and production capacities, as well as through the costs of environmental and weather disasters. The latter have high economic and social costs, which are inevitably transmitted to the issues of price stability and financial stability. Consequently, central banks cannot leave environmental problems out of their attention.

Climate science has defined the "ecological ceiling" of life on our planet, identifying the boundaries of the 9 ecological dimensions necessary to support life on earth. Crossing these boundaries through pollution, e.g. pursuing the target of GDP growth based on current technologies and energy sources would result in irreversible environmental degradation. This would radically change the characteristics of the environment and the ecosystem, destroying the production capacities of the material goods necessary for economic activity. Touching, pollution and shrinkage of water resources, fertile lands, air and oceans; droughts and floods, habitat loss, microclimate change or infrastructure destruction from natural disasters would significantly affect the production capacity, product prices and financial sustainability of our economies. Even in the extreme scenario they would complicate the very existence of life on Earth. The primary responsibility for preventing climate change disasters rests with lawmakers and governments, who approve and administer environmental policies and their adaptation to the sectors of the economy to control environmental costs and mitigate the risks associated with them.

Since polluters (producers) receive all the benefits of economic activity, but only a small fraction of the cost of pollution, which is borne entirely by society, legislative institutions have the responsibility to establish the legislative framework and the institutions that control and administer environmental costs in all sectors of the economy. Governments have the mandate and instruments to prevent and minimize the consequences of climate change. The purpose of these policies is to balance the costs and benefits for pollutants to establish a sustainable production balance, based on current technology, and

at the same time to prepare and support the economy to realize the gradual transition to the use of alternative technologies based on clean, durable and renewable. Through imposing costs and targeting investments, governments help the market select efficient projects from the perspective of profit maximization and cost minimization, including environmental ones. The financial system and consequently the central bank have an important role in this process. This is because private investments are financed mainly through bank loans issued by financial institutions that are mainly supervised by central banks.

Central banks have modelled and analysed environmental and climate costs as shocks / in the context of monetary policy or stress tests of financial stability, as rare and temporary shocks on the supply side. Their impact at the macroeconomic level has always been fully balanced in the short or medium term. Contrary to this perception, statistics show that floods, droughts and other climatic and environmental disasters are occurring at a higher and more regular frequency, and are extending and spreading more and more geographically. This and the alarm of environmental scientists show that these events should no longer be seen as isolated shocks, but that they have already materialized and should be an integral part of monetary policy decision-making and financial stability. As a result, climate and environmental issues are expected to present a set of problems that central banks will face and must be prepared to address in the future as part of their normal.

III.2. IMPLICATIONS FOR THE OBJECTIVES OF THE CENTRAL BANK: INCLUDING CLIMATE AND ENVIRONMENT IN THE CENTRAL BANK'S OBJECTIVES

Various studies confirm that climate-related events can affect macroeconomic developments and the financial stability of any economy (FSB (2020)). In view of these discussions, below I will focus on addressing some of the challenges that national authorities and central banks will face, consequently, they also pose challenges for the Bank of Albania.

Bolton, et, al., 2020[10], in their paper, explain climate shocks by categorising them as supply-side and demand-side shocks. Due to the impact that climate risks have on key economic indicators, these risks are classified as: physical risk to extreme weather; the physical risk of global warming; and the risk of transition to a "low carbon" economy. Also Bolton, et, al., 2020 show that the physical risks associated with climate change can cause high costs to the economy both directly, through the high cost of infrastructure repair and loss recovery, and indirectly through transition risks associated with a lack of strategies for a well-management of negative shocks to production costs and quantities and other unforeseen risks. Both physical and transition risks have a direct effect on production factors and global production, trade and supply network, and in turn through these factors may affect the prices of goods and services. This two-fold impact in the form of lower output and higher prices increases the systemic financial risk and threat the realisation of two important objectives: price stability and financial stability.

To illustrate the above conclusion we may recall that the destruction of habitats or the change of climatic conditions (for example due to reduced rainfall) in agricultural regions, for a certain product, is at best accompanied by an increase in production costs and in the worst case in total production loss and reduction of production on a global scale. This would not only lead to an increase in the price of affected products by driving to inflation, but would also impair the income and existence of producing farms of these agricultural crops.

Also, financing the transition from old technologies with environmental costs to new technologies with zero or minimal environmental and climate impact escalates price increases and financial risks. This is due to the fact that the immediate replacement of existing technologies and the reorientation of investments and bank credit towards replacement technologies with minimal (or zero) impact exhausts financial support for current production structures and technologies. This shift of financial resources towards increased investment in new technologies, e.g. for energy, is accompanied by limited or no increase in current production capacity, which is based on existing technologies, limiting

[10] *"The green swan- Central banking and financial stability in the age of climate change", BIS 2020.*

supply while global demand is increasing. On the other hand, existing technologies cost less than new ones and are more productive for the realization of the profit target by manufacturing entrepreneurs, while climate costs are public and not included in the cost of production. In contrary, the higher cost of new technologies with zero climate impact is transmitted to the higher cost of producing goods and services for entrepreneurs. The first negative effect could be mitigated by adopting a gradual depreciation approach of existing technologies with a high degree of climate pollution. However, the pressure to address global warming as soon as possible seems to dictate strong policies on the part of international organizations towards the replacement of polluting technologies as soon as possible. The second negative effect of the high cost of new zero-pollution technologies could be mitigated thanks to a higher pace of innovation. But even in this case, research and innovation cost, both in financial terms and in terms of time. The current objectives set at the COP26 Summit on reducing pollutant emissions and global warming require a rapid approach to replacing old pollution technologies. Consequently, the impact of the transition to new technologies at higher prices of products and services translates into negative shocks on investment and supply side, respectively, putting producers and users of products in financial difficulties and further carried on at the highest degree of systemic risk.

For the reasons illustrated above, some central banks are considering the specification of climate change in the central bank target or mandate, assessing the challenges that these changes pose to them. From the perspectives of the objectives and policies administered by a central bank, these challenges are numerous and significant. They are summarized below, categorizing them as implications for monetary policy, financial stability, and banking supervision.

III.2.1. Implications for monetary policy decision-making

The uncertainty of climate change is likely to affect the development of monetary policy in three important ways.

The first challenge in monetary policy decision-making is about accurately identifying climate shocks and identifying their effects.

In the practical aspect of decision-making, accurate identification of issues is important for determining the basic assumptions on which the models of analysis and forecasting for monetary policy purposes and financial stability stress tests will be based on. This remains a challenge, as traditional modelling approaches are based on empirical analysis of historical developments (based on previous economic and financial cycles), while climate and environmental evolution will dictate developments and expectations in previously undocumented forms and dimensions. In simple words: the more inaccurate the models for assessing the effects of environmental and climate "shocks", the more deviated the economic and financial forecasts from reality are, and consequently the more erroneous will be the judgement of the decision-making of monetary policy. If estimates are wrong in predicting climate development trends and their effects, medium- and long-term monetary policy decision-making will be taken in contrary to economic developments and, instead of amortizing, will amplify shocks to the economy.

Climate-related risks, both physical and transitional, are characterized by a deep non-linearity and uncertainty, as the possibility of their materialization is not reflected in historical data and the risk of extreme consequences cannot be ruled out. In this context, traditional risk assessment approaches are less or not at all useful in terms of assessing future climate-related risks. Therefore, the main challenge for central banks will be to re-formulate new approaches and reorganize existing risk assessment models.

Moreover, it is still difficult to determine exactly where and with what frequency or magnitude the effects of climate costs will occur. By this, I mean where the physical and transient dangers will strike most strongly and most often. Will the shocks be more pronounced in prices, labour market, GDP or other economic and financial indicators? How will the relationship between these indicators be affected, as a result of the physical and transitory risks? Monetary history tells us that these considerations play an important role in determining the primary objective of the central bank and its monetary policy. Thus, the implications of a climate change could lead to a review of the central bank's mandate and primary objective.

The third challenge is finding a golden mean for staying and supporting new projects and technologies based on the use of clean, sustainable and renewable energy sources. As explained above, the total conversion to these resources is a long-term, laborious and costly process. If currently all the funds will be directed from the projects and technologies of the future, this would leave without financing the current energy sources, which, in the absence of financing, make it impossible to meet the growing demand for energy. Consequently, for a long period until all needs are met by new clean technologies, the market would experience a structural energy deficit, damaging one of the most important links of the production chain in the economy. In the perspective of the central bank's mandate, this would be accompanied by an increase in the price of energy, production costs in the economy and consequently in inflation, by hindering or making difficult the achievement of the monetary policy objective and with high probability, also the economic and financial stability of the whole economy.

III.2.2. Implications for financial stability

Climate change can be expected to increase the vulnerability of financial stability. For the general public, financial stability is not as perceptible and measurable as price stability. The threat to financial stability certainly appears to the public only after financial markets have been hit by crises and stability has been lost. Crises usually occur as a result of accumulated risks unnoticed or, when negative shocks to financial markets are underestimated and considered as phenomena without economic and financial consequences. Therefore, identifying and assessing financial risks is a good preventive tool for behaviours or phenomena that undermine the stability of each financial institution individually and the financial system as a whole. At the same time, macroprudential policies aim to ensure that every institution can absorb losses, while continuing to provide financial services to its clients and without transmitting the shock to the rest of the financial system as a whole.

In the above perspective, understanding, identifying and assessing financial risks, including those that may arise as a result of environmental and climate change, is an essential task and

responsibility of the central bank. Climate change risks do not necessarily create new categories of financial risk, but can be channelled into existing risk categories, which are considered in the analysis and assessment of risk scenarios. In fact, the literature on financial stability identifies a range of physical risks associated with drastic weather changes (floods, fires, heat, etc.), which cause unforeseen costs and losses with major negative effects on the value of financial assets of the financial system.

The first challenge that climate change poses to financial stability is that these events hit and weigh on banks' balance sheets, damaging banking soundness indicators and eroding their capital. To give an intuitive explanation and illustrate this phenomenon we recall that environmental and climate changes through fires, floods, droughts and depletion of water resources, land loss due to erosion, rising ocean levels, melting glaciers, etc., often irreparably damage the properties and production capacities of individuals, households and businesses. Damaged properties, mainly of businesses, but also of households, can be financed through bank loans or have been placed as collateral for loans taken from them. Consequently, the environmental and climate shocks mentioned above damage not only the ability of businesses to conduct the activity and their ability to repay the loans obtained, but also the ability of banks to recover losses due to the execution of the properties that guarantee these loans.

A negative climate shock provides a two-sided threat to financial stability, by increasing the risk of bad loans and reducing the value of banks' collateral. Overall, changes in the prices of a class or several classes of assets or the depreciation of real estate to the point of their becoming not viable, regardless of the origin of the negative impact, can turn dangerous to financial stability, provided that lending by the financial system is covered mainly through mortgage properties. It is already known that the two-fold effect of decreasing the value of collateral and the solvency of borrowers, which harm the macroeconomic and financial stability both through losses and corrosion of banks' capital and through the loss of system capacity to credit the economic activity. In the optics of the central banks' mandate, this chain of effects affects both financial stability and the objective of price stability, already inevitably linked to each other.

The second challenge relates to the modelling of these risks by the central bank and their inclusion in stress tests for the sustainability of the banking system. This will require central banks to include in the analysis of stress tests tools for identifying vulnerabilities and their impact on the soundness of the financial sector, to provide as complete as possible both the analysis and prevention of risks to the financial system. In this case, like in monetary policy one, the lack of information is a second very important challenge in calculating and calibrating models that measure the effects of climate on banking soundness indicators.

Third, the materialization of climate change carries another risk exhibited in the non-banking financial market segment, specifically in the segment of insurance companies. This segment, despite being conceptually distanced from the banking system, remains widely involved in financial activity and interacts with banks and other institutions through cross-use of each other's products and services[11]. This interaction in the financial market means that in addition to the direct effects that environmental disasters have on all segments of the financial system, there are also indirect effects and risks that must be considered from the perspective of financial stability. These can be manifested through the negative effects of rising risk premia or the total withdrawal of insurance companies from insuring real estate, manufacturing facilities, businesses and activities that are at risk from environmental and climate change. Placement in geographical areas subject to increased climate risk, as well as any other respective uncertainties, constitutes an additional risk premia, on any basic price of insurance companies' products and services. Also, sudden depreciations or appreciations of asset prices occur due to unexpected changes in government policies towards various industries as transition risks to a green economy. The financial implications of the low carbon transition are significant, implying that large redistribution of investments is required.

III.2.3. Implications for banking supervision

Risks to banks are definitely more direct and diverse than to other financial market segments. The history of crises shows that financial

[11] *Cross-use of each other's products means that banks can use the products, directly or indirectly, of insurance companies and, conversely, insurance companies can use the products and services of banks.*

markets do not always adjust the prices of financial instruments and products to accurately reflect market risks and in a timely manner. Therefore, it is a duty of supervisory authorities to ensure that risks are properly understood, assessed and measured. This leads to the important role of banking supervision. Banks may think they have less reason to fear climate change risks because their assets tend to be short-term ones, which are hedged against collateral. But this confidence of banks does not have much stability, as dragging the above discussion from the financial system to the banking level, it becomes clear that environmental and climate costs can step strongly up to the bank itself. The availability of collateral to be taken as a guarantee can also be a false comfort. If lending to residential property or corporate business against physical guarantees, to mitigate the risk of default losses when catastrophic climate events occur, the physical asset is either impaired to the extent that it does not cover the loss, or in the worst case scenario is entirely lost. Exactly, the collateral identification and assessment will need to include, identify and adjust in accordance with the environmental impact risk. Consequently, banks and the central bank, as supervisor of the banking market, will have to consider and at the same time build technical and human capacity to assess the negative effects of climate and environmental change at the microeconomic level, in terms of all projects considered and their collateral. Such a change is definitely a challenge in itself to the banks individually and to the system as well.

On the other hand, banks can play an important role in the fight against climate and environmental change. They can lend to sectors of the economy that need to be decarbonized and structured into environmentally sound investments. But on the other hand, banks must ensure that through their credit, trade and investment policies, they do not increase the risk and cost to the environment. Through their instruments, banks can play a crucial role in transforming economic activity towards sustainable and renewable resources without environmental costs. They can be accomplices or co-promoters of change.

According to the European Union study (IEA, UNFCCC, McKinsey) the five sectors that emit the largest share of greenhouse gases in the EU are listed as follows: 28% come from transport; 26%

from industry; 23% from electricity; 13% from buildings; and 13% from agriculture. In all sectors, fossil fuel combustion is the largest source of greenhouse gases, accounting for 80% of emissions. These sectors will require major restructuring and a lot of funding, while they will have greater losses. This means that banks will have to face a choice of whom and how much to support with investments. They will also have to choose whether to take these statistics into account, in addition to those that will emerge from future studies on climate and the need for transformation. The fundamental issue for the central bank is how and to what extent it will influence this decision of financial intermediaries. In other words: "Should the legal and regulatory aspect issued by the central bank, consider and position in the report the issues raised for the climate, imposing direct or indirect restrictions to influence or limit the decision-making of the banking system?"

The optimization of these regulatory measures and restrictions by central banks is a second important challenge for central banks, in terms of its role as a supervisor of the banking system. In order to increase resistance to climate risks, banks and lending institutions should focus on two directions: first, to manage their exposure to enterprises exposed to climate risks; and second, to seize opportunities to finance renewable energy, refinery plants and technologies adaptive to low carbon emissions, as well as other environmentally safe businesses. Banking supervision policies will need to orientate banks in two directions: identify and assess the financial risks of climate change, and optimize the banks' regulatory framework in support of financing a green agenda. First, the orientation of banks towards enhancing capacities to identify and assess the financial risks of climate change in the sectors where restructuring is required, both for individual banks and for the banking sector as a whole. Current models of banking supervision and modelling are built on a relatively stable climate situation. Adapting to these threats and instabilities is an important challenge for the central bank, which will now have to rethink and review climate risk assessment models.

Second, it should support financial intermediaries through regulatory easing of capital requirements to finance an agenda for green assets. This will initially require providing a manual with definitions to

commercial banks to classify what green assets will be. This will require central banks to enhance their expertise and capacity towards the impact of climate changes, which have turned into a priority to many international organizations and governments worldwide.

Most importantly, we will need to understand that the discussion addressed above does not represent a general hypothetical theoretical discussion to be kept in mind as a development philosophy. It is a concrete discussion and takes into account the challenges that the Albanian economy and the Bank of Albania will definitely face, as climate developments and climate and environmental-related risks directly affect Albania and its productive resources.

According to the World Bank estimates[12], Albania is a country with a significant risk profile, ranking 75th out of 181 countries. In concrete terms, temperatures are projected to continue to increase across South Eastern Europe and Albania's summers are expected to experience the greatest degrees of warming, with an increase of 2.4°C to 3.1°C during June to August This temperatures rise and extreme heat (in fact the scenario predicts the extension of the hot period from April to October), will be accompanied by a decrease in the amount of precipitation, increasing the frequency and intensity of dry periods, negatively affecting agricultural production and increase the stress of water resources, fires, etc., especially across coastal areas.

The World Bank report shows that these changes are expected to affect various aspects of the economy. One of the main devastating consequences is predicted to originate from river floods, which will be more frequent, and more powerful, damaging infrastructure and construction. In addition, erosion disruption is expected to affect coastal areas and lagoons, by jeopardising residential, productive and tourism infrastructure, including cultural heritage sites.

Changes in rainfall and temperature are expected to significantly affect population, quality of life and health in many ways. Water supply and the negative effects on population health from problems associated with high temperatures (such as strokes, heart ischemia,

[12] *World Bank, Climate Change Knowledge Portal, the material is fully available at: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-06/15812-Albania%20Country%20Profile-WEB.pdf.*

myocardial infarction, and increased risk of spreading tropical diseases) are present effects regardless of the intensity of the global heat. At the same time, the deterioration of air quality will affect the growth of chronic lung diseases, especially affecting older ages and predisposed groups. It is understandable that together, these phenomena are expected to negatively affect various economic sectors in the country. The main negative effects are expected to be felt in the reduction of production in the agriculture and energy sector, which are particularly dependent on rainfall and endangered infrastructure. Also, tourism, fishing, forests and livestock will suffer the negative effects. These statistics and analysis clearly show that the Albanian economy, though not a global polluter, will experience consequences that plainly illustrate the challenges of climate change. They will pose real risks to: the Albanian economy; the banking system; and the Bank of Albania.

Recognizing and accurately assessing these risks, the Bank of Albania, in cooperation with SECO, has begun work on building models that will assess the effects of climate change on price stability, as well as on the macroeconomic and financial stability of the country. In order to build policies and prepare for the challenges mentioned above. Also, the Bank of Albania has become a member of NGFS since 2020. This group represents a voluntary community, with members of central banks and financial supervisory authorities from around the globe, who have engaged human, financial and scientific capital in the study of these phenomena. Its focus is on coordinating the objectives and initiatives with other key actors within the country and internationally, mainly in terms of data generation, analysis and assessment of the impact of climate effects on price stability, financial stability and banking supervision.

However, despite these actions taken (which are actually three: Paris Agreement, NGFS and the Climate Model), the Bank of Albania, like other central banks, is still in the early stages of understanding and discussing to address the above challenges and still has a long and challenging way to go, in accurately recording and calculating costs, formulating policies and, finally, their successful implementation. Therefore, the final implementation of the agenda set forth by the NGFS remains a major challenge for the future.

IV. DEMOGRAPHIC CHANGES: POPULATION AGEING AND MIGRATION

While the economy is still facing the consequences of the pandemic, attention has shifted from cyclical aspects of the economy to structural factors of production and the normalization of policies. In this regard, a question is already constantly asked: "What is considered normal?" To answer this question, one must first understand how the foundations of economy that determine productive capacities and economic prospect evolve. In economic theory we are used to referring to labour and physical capital as the ability to: come up with new ideas; change; invest; increase productivity; grow in economic terms; and move forward. In this regard, the demographics, is an important factor with an absolute effect on the labour factor.

Demography is directly related to the labour factor and its supply, affecting human capital, and consequently the ability of society to increase productivity and create physical and financial capital. Different countries have different demographics, therefore, to understand the local and global economy, an analysis of demographic change and the challenges they present to monetary and fiscal policy makers is not only quite valuable and informative, but above all, required.

In fact, demography and economic development have a complementary relationship providing a two-directions impact. Economic development positively affects demographic factors and vice versa. Progress in technology, education, employment, and institutional and social development after World War II enabled the globe's population to grow from about 2.5 billion in the 1950s to about 7 billion nowadays. Although it should be noted that demographic cycles are generally longer than business cycles, so their impact on a country's economic development has the most long-term effects.

Currently, the demographic cycle in the economies of Europe and North America is estimated to be in a declining phase, where the population in these economies is ageing. This fact is evidenced in the swift upsurge of its average age (Figure 1). For these reasons,

Acemoglu and Restrepo (2017) deem that the rapid ageing of the population, worldwide, is seen as one of the most dangerous economic diseases of the next several decades. Currently, fertility rates remain below the level that ensures population replacement, and average life expectancy (the number of years an individual is expected to live) continues to rise. As a result of this trend, the ratio of older people to the working age population has increased and will continue to rise over the next decades. Consequently, a decline in the labour force and an increase in the number of retirees are expected in the future. It is clear that these trends will stress and hit production capacities, pension systems, fiscal budgets where the latter are supported, the structure of consumption and investment, etc., and through them the entire economy.

Thus, the demographic transition is expected to provide consequences in all aspects of economic activity. Studies show that the increasing share of elderly in populations is likely to negatively impact the growth rate of GDP per person (Cooley and Henriksen 2018), the sustainability of pension systems (Boulhol and Geppert 2018), and will lead to an increase in the share of GDP being spent on healthcare and related services (Breyer et al. 2011). Naturally, these developments will lead to the change in the share and structure of the savings-investment balance in the economy and are expected to significantly impact the banking system, given that different demographic groups have different financial behaviours.[13]

Demographic changes shape the economic trends, both through the income effect, which operates on the demand side, and through the labour market on the supply side (Yoon, 2014). Particularly on the demand side, consumption and investment will be hit by structural changes in the population related to the income profile, thus affecting the price level. The impact of demographic change on the supply side extends to an even longer time horizon, thanks to the direct effect that population aging has on the structure of the labour force, the labour market, productivity rates, as well as on potential rates of economic growth (Aksoy et al., 2019; Derrien et al. (2018)).

[13] *For example, retirees increase liabilities on the balance sheet of financial intermediaries by increasing deposits, but without expanding their balance sheet on the assets side by increasing the demand for bank loans.*

Demographic developments may dictate the shift of economic activities between sectors and professions, in line with the aging rates of the population. A clear example is that a high percentage of health services are consumed by a high percentage of the elderly population. Thus, in an economy with an older population, the demand for these public sector services may increase exponentially in relation to the elderly population.

Demographic dynamics may also have effects on equilibrium interest rates as a result of changes in the savings-investment ratio. Older economies tend to have higher savings rates and lower investment rates, as is the case in Japan. Overall, these trends are associated with lower interest rates in the long term. The transmission of the effects of demographic developments on inflation materializes through changing the relative demand for goods and services by a population with different preferences over life cycles or even through changing wages. In general, wage increases are faster in the early stages of a person's career and tend to slow down as he or she reaches retirement age.

The fall in natural interest rates coupled with deflationary pressures as a result of these demographic developments, mean that the key monetary policy rate is moving towards the lower zero bound. Given that the use of interest rates below zero is limited, fiscal and macroprudential policies remain key instruments for stabilizing the economy, but in an economy with an older population, public expenditure is oriented towards population care, limiting the scope for public investment with a focus on economic growth. Consequently, the capacity of fiscal and macrporpudential policies is also limited. Likewise, pension systems are under the pressure of demographic change, by putting pressure on public spending and debt.[14]A second-round effect of the reduction rate in investments, output, and tax revenue would only amplify the effect of both labour force and investment shrinkage.

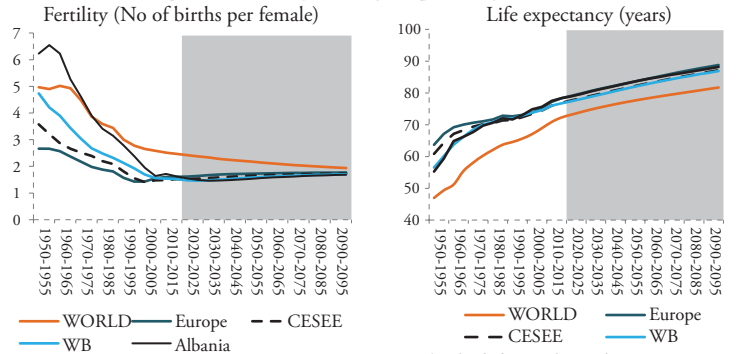
Demographic transformations may also be associated with changes in the structure of financial assets in an economy. The ageing of the

[14] *In principle-based pension systems (Pay as you go), public spending on pension payments is financed by the social security contributions of current employees, rather than by savings accumulated through previous contributions.*

population reduces credit demand while the demand for long-term financial assets will increase. The younger generation will have to accumulate more savings for retirement, amid a tightening of public funds for social security as a result of population shrinkage. These changes in the demand for financial products can lead to changes in the structure of the financial system. The traditional role of banks may diminish in favour of investment funds, pension funds and insurance schemes, as demand for the latter's products increases as the population ages.

The discussion on demographics is important to address in the Albanian economy, as population shrinkage trends have been observed in our country. According to INSTAT data (2021), the growth rate of the Albanian population has decreased by 2.7% over the last decade, numbering about 2.83 million people in January 2021. The life expectancy of individuals has increased from 2011 to 2019, but the number of births per year has decreased significantly by about 17.6% in 2011-2020, while the number of deaths per year has remained at stable levels[15]. According to the forecasts of the United Nations (UN), the aging trend of the population is expected to continue in the coming years(whether in the optimistic scenario to the most pessimistic), driven by declining birth rates, rising life expectancy and high trends of emigration.

Figure 3 Fertility and life expectancy at birth

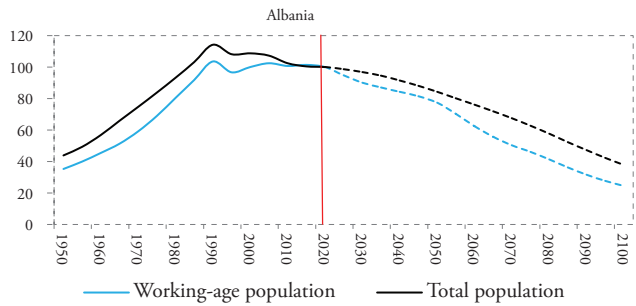


Note: The shaded area shows the UN projections.
Source: UN projections.

[15] *Excluding year 2020, when the number of deaths increased by about 30-40%, due to the COVID-19 pandemic.*

All these trends in fertility, longevity and emigration mean that the working age population will grow much more slowly than the total population, as can be seen in Figure 2, which could pose a serious obstacle to potential output in Albania.

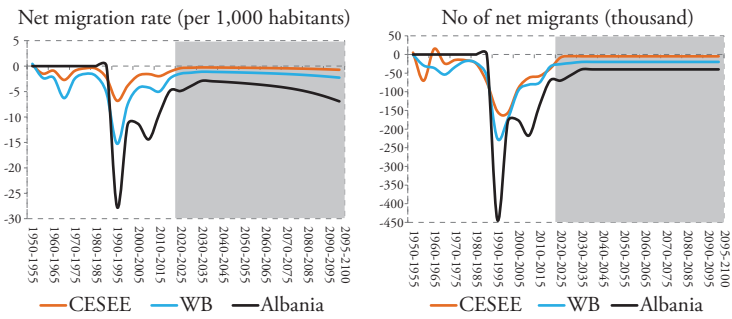
Figure 4 Trends of total population and working-age population (2020=100)



Note: The area after the red line shows the UN projections.
Source: The UN projections.

Massive population migration flows have resulted in a considerably affecting factor in the demographic developments of these last three decades. The phenomenon of migration has been observed in all strata of Albanian society, though with different intensities. Recent studies [see e.g. King, Gëdeshi (2020a); King, Gëdeshi (2020b)] show that emigration from Albania is increasingly acquiring the "brain drain" features. A critical consequence of this phenomenon to

Figure 5 Trends of migration flows in Albania and region



Note: The shaded area shows the UN projections.
Source: UN projections.

the economy is that the country is losing human capital, especially its most precious part such as talented, well-educated and qualified young people. These trends of emigration movements undermine the country's ability to cope with international competition and present high costs for its economic development through a direct impact on labour force.

Demographic trends that characterize the Albanian population are expected to have economic and financial implications in Albania. The world theory and practice presented above show that demographic developments have inevitable effects on the economic and financial environment. They affect the main characteristics and functioning of the real economy, as well as the structure and development of financial markets and through these influences, they can bring or cause challenges to price and the macrofinancial balances of both the economy and the banking system. Thus, demographic developments, which as stated in the forecasts are not positive, will challenge the Bank of Albania and its decision-making regarding monetary, macroprudential and supervisory policies.

Particularly, in the case of Albania, social and health insurance schemes continue to pose a significant burden on public finances. In this context, taking into account the unfavourable demographic developments, the Bank of Albania suggests the regular review of the pension scheme and other social insurance schemes, in order to maintain them in a stable and affordable trajectory for the state budget, in order the BoA does not end up subject to fiscal dominance. Also, there should be considered that the banking system holds in its portfolio a significant share of government securities, which may have consequences to financial stability.

As mentioned above, the emigration of the most educated and qualified part of the Albanian society carries high costs for the productivity and quality development of the country, which can certainly have consequences in the general level of prices, depending on the magnitude of these effects on aggregate supply and demand. In addition, structural economic changes that come as a result of population aging can be associated with significant effects on price stability.

The cumulative effects of demographic changes can be significant, but their materialization is very gradual, complex and uncertain, which makes it even more difficult to separate them from the effects of other factors. In this view, the issues of modelling, analysis and forecasting the effects of demography on price stability and financial stability pose a challenge to the Bank of Albania. Based on the extension of potential demographic effects in various economic and financial fields, their consideration in the design and implementation of the Bank of Albania's policies and the development of appropriate tools and techniques for their assessment, the Bank of Albania has started its work to design a model for assessing, analysing and predicting the effects of demographic developments.

Preliminary analyses of the Bank of Albania based on empirical models that scrutinise the effects of demographic transition in Albania can have important implications for monetary policy, through their impact on interest rates. However, the results of more in-depth studies in this field will soon be made known to the public, in the form of publications as research papers. Overall, analyses show that the economic effects of demographic changes are likely to become apparent not within a few years, but for decades. This makes it difficult to link the long-term implications of population ageing for the economy to the decisions taken by a central bank in the medium-term horizon. The effects may be invisible to society and the authorities, and consequently, in the absence of information, they may not take corrective action until the shock occurs, when it would be too late. Furthermore, the institutional policies (especially reforms in the labour and product markets and in the pension and health care systems) and the reactions of economic agents to the expected demographic changes and the implementation of reforms will determine the ultimate impact of population ageing, on the real economy and financial markets. In the framework of monetary policy, the monetary policy effectiveness is expected to be directly affected, and consequently the all its instruments. Therefore, the uncertainty about demographic effects leads to an increasing need to carefully monitor possible changes in the transmission of monetary policy effects, especially through the wealth channel, but also through the banking channel, given the growing importance of pension systems and those of private savings. Re-allocations of

portfolios by institutional investors can sometimes exert a downward pressure on long-term rates of return that are not directly related to macroeconomic fundamentals or other structural factors. This, in turn, can lead to "excessive" borrowing from the private sector and temporary distortions in resource allocation.

Aging will have an indirect but significant impact on the stability of the financial system. In this case, the effect may appear through the negative shocks on pension schemes in the budget deficit. This is very important in the case of Albania, where the current pension scheme has a deficit comparable to the fiscal deficit. In the current conditions of technology and production, the ageing of the population is expected to drive to a further increase of pension scheme deficit, by driving fiscal policy into difficulty. This difficulty can manifest itself at a higher public debt rate, undermining its sustainability in the long term. In absence of a developed capital market, the loss of the stability of public finances may pose a problem for the balance sheets of the banking system, especially in Albania, where public debt accounts for 26% of the total assets of the banking system (June 2021), as a result it would pose a threat to the entire banking system stability.

Finally, attention should be paid to the wealth of households. The latter is becoming more exposed to financial markets, and pension income is subject to a greater investment risk than before. This highlights the importance that relevant institutions strengthen efforts to increasing the financial knowledge of the population, which continues to be limited in Albania.

At the end of this discussion, it is clear that the effects of population aging hit and extend across sectors, urging to a downward spiral with long-term consequences for both achieving the Bank of Albania's objectives and the prosperity of the economy and households. Consequently, it is necessary that the demographics and its effects be studied and analysed in depth from now on, in order to clearly ascertain and evaluate the effects of these developments.

In this regard, the inclusion of demographic factors in the stress tests of the banking system to guarantee its resilience from the negative effects of population ageing is a necessary step.

In line with these objectives, one of the best ways to combat the effects of population aging is to increase the productivity of the workforce and human capital, through continuous education and refinement of the workforce and the entire population. Education plays an important role not only in productivity, but also in the fact that an educated public better knows and understands these challenges. At the same time, it takes measures and makes efforts to ensure the sustainability and economic security of the family where a role of budgeting, savings, investments and membership in private investment schemes play an important role. In addition to technical education, it is necessary for the society to be completed with financial education, because an emancipated and financially involved society reduces the burden and negative effects of any economic problem, and becomes a financially stable and economically successful society. Consequently, in the following I will focus on education and financial inclusion, as a last important challenge facing the Bank of Albania, today and in the future.

V. FINANCIAL EDUCATION AND INCLUSION AS A PRECONDITION FOR SUCCESSFUL AND SUSTAINABLE MACROECONOMIC AND FINANCIAL POLICIES

If we take a look at the way of life of individuals, its quality, the challenges they face, demographic, technological, climatic changes, pandemics, etc., we notice that all these elements have put the individual in front of many and complex decisions, requiring individuals to have a certain level of financial culture. The (OECD) defines financial literacy as not only the knowledge and understanding of financial concepts and risks, but also to make effective decisions to improve the financial well-being of individuals and society (OECD).

Financial education, financial consumer protection and financial inclusion are globally recognised as essential ingredients for the financial empowerment of individuals and the overall stability of the financial system, as enshrined in a series of high-level principles approved by G20 leaders (OECD, 2016).

V.1. WHY IS FINANCIAL LITERACY IMPORTANT?

An indirect look at the economic and empirical literature shows that financial literacy, in addition to qualifying as an investment in human capital, is important and provides significant implications to the well-being of the whole society. A higher degree of financial literacy positively affects the individual's ability to perform his or her role in financial planning, asset accumulation, or making appropriate pension and debt decisions (Lusardi et al., 2011, 2013). Also, the behaviour of individuals and households affects price and financial stability, thus it is important for the transmission of policies pursued by central banks.

Early models studying the consumer behaviour of individuals predict a well-optimization of the savings-consumption ratio through the mitigation of marginal utility throughout its life cycle (Modigliani and Brumberg (1954) and Friedman (1957)). Based on these models, factors such as consumer's preference, macroeconomic environment and the level of income from pension or social assistance schemes, remain key determinants of consumer trends. All of these conclusions are based on the assumption that individuals are rational in their decision-making and that they have complete information on markets and prices.

In fact, subsequent studies and data show that the reality is far from the above assumptions and a small number of individuals have the right financial knowledge. Recent studies conclude that in a more complex and developed economic environment, where each savings plan, investment or pension scheme is personalized, the need for culture and proper information for a rational decision-making is even greater (Lusardi and Mestless, 2013). Thus, a significant part of the analysis and research work is focused on assessing the gaps between the theoretical level of financial literacy and what exists in reality.

Attention has been paid to the decision that individuals make to have a financial culture, as well as the link that exists between financial knowledge, savings and investment behaviour. In academic studies, importance is given to financial knowledge and the impact they

have on the investment of assets with higher rates of return[16]. One of these studies highlights how financial knowledge and wealth are correlated over the life cycle of individuals with an upward trend until retirement, followed by a downward trend thereafter (Jappelli and Padula, 2011). The same authors have concluded that generous pension schemes dampen incentives to save and accumulate wealth and, consequently, diminish incentives to invest in financial culture. However, these studies lack the inclusion of budget constraints, risk of mortality, demographic factors, and returns from capital markets, as well as shocks to the health of individuals.

Studies where investments in financial knowledge, in addition to investment in physical capital, are also subject to the above constraints, find that inequality in wealth and financial knowledge are endogenously related (Lusardi, Michaud and Mitchell, 2011, 2013)[17]. These studies find out that although some individuals rationally choose to invest little or nothing in financial literacy, the mandatory inclusion of financial education in high-scholl curricula will be optimal for society as a whole. Thus, any initiative or policy aimed at improving and strengthening financial knowledge, within a consolidated consumer protection framework, will drive to a sustainable growth and preservation of financial well-being for individuals and the population as a whole (OECD, 2020).

The financial education of individuals and all approaches to improve it are seen as a necessity not only for the well-being of individuals, also of financial markets and the economy as a whole. This is because the most financially literal individuals contribute to a more efficient functioning of financial markets, as well as foster competition among financial intermediaries, through the provision of innovative and quality financial products and services. On the other hand, more financially educated individuals tend to save more than others, affecting the growth of savings, and consequently the growth of investment and the entire economy. Moreover, financial education

[16] *See Delavande, Rohwedder, and Willis (2008), Jappelli and Padula (2011), Hsu (2011), and Lusardi, Michaud, and Mitchell (2013).*

[17] *Empirical results show that: (i) optimal financial knowledge takes the form of a bump (inverted u) over the human life cycle; (ii) individuals invest in financial knowledge as long as the marginal benefit and the cost of investing in it are equal to the marginal benefits; (iii) knowledge profiles are different according to groups with different education, as individuals have different income profiles.*

increases and strengthens consumer protection, as these individuals, knowing better the financial products and services, as well as the risks associated with them, are less vulnerable to fraud and abuse (Greenspan, 2003b).

Financial education in developing countries becomes even more important as consumer's awareness and training affects the further development of the financial market, as a result the increase of economic activity and reduction of poverty. On the other hand, more financially literal individuals are less exposed to financial risks, as they have more knowledge about how the market functions and on the conditions it operates. This makes financial education affect not only the recognition of financial products and services, also the improvement and planning of investments and savings in the long run, the assessment and diversification of risks in order to increase the financial well-being of individuals and society as a whole, bringing about long-term and sustainable economic growth.

This is best illustrated by what is described above in the book, i.e. the problems that arose during and after the global financial crisis carry in themselves important elements of financial illiteracy. Moreover, individuals who would not be able to calculate and estimate the cost and benefits of their financial decisions will push themselves and their business into wrong decisions, translated into debts and investments that they may not be able to repay. A similar error is related to not recognizing the risks associated with an economic and financial decision-making regarding the recognition and understanding of contracts, the accurate calculation of future liabilities and benefits, the risks associated with variable interest rates and exchange rates in cases of foreign currency investment borrowing, unsecured digital currencies, etc. These mistakes directly affect the capacity of individuals and businesses to meet and repay their financial obligations, which aggravate and make more vulnerable the balance sheets of businesses and households, and often lead to their bankruptcy and increase in bad loans, slowdown of credit growth, impairment of financial stability, and consequently of economic activity, as explained in Chapter 5.

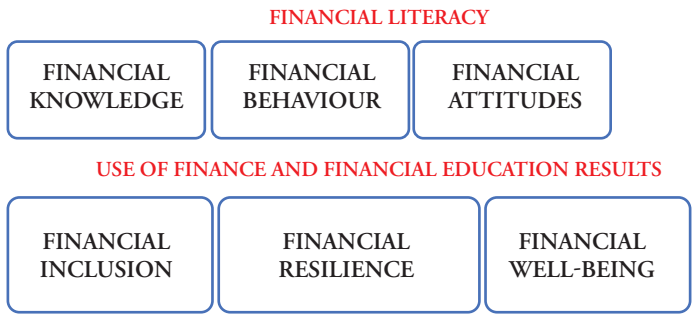
Central banks are directly interested in increasing financial literacy. Earlier in the book it is said that monetary policy is signalled through

current and expected interest rates and its communication with the public, which reacts to adjust its behaviour in accordance with these central bank signals. For example, if the central bank, in response to higher inflation expectations, raises the current monetary policy interest rate, which is transmitted to short-term interest rates and then to long-term interest rates in line with the transmission mechanism, this will drive to an increase in the cost of credit. Thus, this would translate into higher interest rates on the loan repayment, and the opposite happens when we have a reduction in the key interest rate. In this way, through the increase and decrease of the interest rate, the central bank influences the credit financing conditions, as a consequence the credit supply and demand to households and businesses. In addition to the loan interest rate, deposit rates are also affected, which in turn impact the income that households obtain from their investments in financial products. The interest rate is just one of many signals that the economy and the central bank or other financial and fiscal authorities send to the economy. In order for this naive example to work, individuals must first know and understand these signals, in addition to having knowledge of how these signals relate to their decision-making regarding consumption, savings, investments, and so on. Second, they must be part of the economic and financial market in order to transmit these signals through their decision-making.

What would be the value of interest rate communication if the individual or business is not financially included, i.e. does not have deposits, bank accounts, payments, or does not have the capacity to obtain credit, overdraft, credit card, etc.?

In the absence of the use of banking and financial products, the signals would have no value at all, or the value would be very small and the monetary policy would not be transmitted. Consequently, price and financial stability depend directly on financial literacy and inclusion, as does the well-being and long-term prosperity of the family and business. For this purpose, the Bank of Albania has paid great importance to the recognition and evaluation of financial literacy, and has addressed the issue of financial education as one of its priorities since 2006, raising public awareness about it and promoting it as a public good for all. Also, during 2021, the Bank

of Albania is committed to drafting the strategy of education and financial inclusion at the national level.



Source: OECD/INFE 2020

All these initiatives are undoubtedly in function of improving the transmission of the monetary policy of the Bank of Albania, financial stability and better understanding the functions and policies of the central bank by the public at large. For all these reasons, the Bank of Albania is engaged in enhancing financial literacy and inclusion, by conducting measurements and monitoring the financial literacy in years. They will serve to set objectives, identify the most vulnerable groups, monitor them, as well as build on tailored programs and activities to specific groups.

V.2. HOW FINANCIALLY LITERATE ARE ALBANIANS?

Assessments conducted by the Bank of Albania display a low level of financial literacy and inclusion in Albania. This is not an opinion, but a conclusion based on a genuine scientific work carried out by employing the best contemporary standards and methodologies of central banks (Dushku, (2021), Isaku et.al (2018), Ceca et.al (2011). To understand the need for financial education and inclusion, some results on financial literacy and inclusion are presented below.

Following are provided some definitions by OECD related to financial literacy, education, inclusion and well-being, as these elements closely affect each other. Schematically, their relationship would be in the form of a pyramid, at the top of which stands the financial literacy, and its impact is reflected on financial inclusion and the financial resilience as well as on the well-being of individuals and of the whole society. Thus, any initiative that bolsters financial literacy undoubtedly brings growth of other elements, making it serve as a catalyst for a more efficient and qualitative financial intermediation.

Financial literacy is defined as a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being. Meanwhile financial education refers to the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being.

Financial inclusion refers to the process of promoting affordable, timely and adequate access to a wide range of regulated financial products and services, and broadening their use by all segments of society through the implementation of tailored existing and innovative approaches including financial awareness and education, with a view to promote financial well-being as well as economic and social inclusion.

While, the financial well-being of the individual defined as the ultimate goal of financial literacy, includes:

- control of the individual over personal finances, to: be able to pay bills on time; not have an uncontrolled debt; and be able to make a living;
- having a financial reserve against unexpected expenses and emergencies, having savings, health insurance and being a good borrower, being able to rely on friends and family for financial

help, to increase financial ability to cope with and mitigate financial shocks that can affect personal finances;
- having financial goals (such as repaying student loans within a certain number of years or saving a certain amount for retirement), as well as finding the right way to meet them, making people feel better financially;
- being able to make choices that allow you to make a "good living" which means: taking vacations, having dinner outside, attending high school, as well as having a job that creates opportunities for you devote more time to family.

An important element in determining whether individuals have a particular financial behaviour relates precisely to having a measurement of financial culture at the core of which are involved important concepts relating to: numerical capabilities for calculating compound interest, understanding inflation and understanding diversifying risk. Lusardi and Mitchell (2008, 2011b, c)[18] designed the three big questions, serving as the basis for measuring financial knowledge and literacy. These questions aim at: (i) measuring the numerical ability or capacity to perform simple calculations related to the compound interest rate; (ii) assessing the understanding of inflation and its role in financial-related decisions; and iii) testing knowledge about various financial instruments and on diversification risk between joint investment funds and shares. Knowledge on these three issues is the foundations to any financial decision.

Internationally, the OECD has taken initiatives to assess the financial literacy across countries based on a standardized methodology[19]. The OECD and its International Network on Financial Education

[18] • *Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: [more than $102, exactly $102, less than $102? Do not know, refuse to answer.]*
- *Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy: [more than, exactly the same as, or less than today with the money in this account? Do not know; refuse to answer.]*
- *Do you think that the following statement is true or false? 'Buying a single company stock usually provides a safer return than a stock mutual fund.' [Do not know; refuse to answer.]*

[19] *The methodology enables the comparison across countries, the identification of most vulnerable groups, and the designing of tailored policies to address financial literacy issues. For more information refer to OECD toolkits 2014, 2018.*

(INFE) members have increasingly emphasised that financial literacy, financial inclusion and consumer protection are vital to the financial empowerment of individuals financially and to the strengthening the overall financial stability.

The Bank of Albania, in the context of recognizing the phenomena related to financial education, has taken care to obtain all the necessary information, sufficient to assess financial inclusion and education. In this regard, the Bank of Albania has become part of the OECD / INFE initiative, participating in three rounds of surveys conducted in 2011, 2015 and 2019. Involvement in financial literacy assessment and measurement initiatives enables not only comparisons across countries, but also the identification of the most vulnerable groups and the differences that exist between them. The data are used for the purpose of recognizing and analysing the phenomenon, but also for the orientation and design of policies aimed at increasing financial knowledge in the population, as well as their inclusion in the financial market. This has led the Bank of Albania to pay increased attention to education and financial literacy, considering it as a public good for the entire population. The set of initiatives and programs developed by the Bank of Albania aims at enriching the financial culture of the various social groups of the country[20]. In this context, initiatives such as "Global Money Week", the inclusion of the book "Personal Finance" in the high school curriculum, the Governor's Award for the best diploma, etc., are considered accordingly These activities are targeted at different age groups and aim at: getting acquainted with the functions and policies of the Bank of Albania; awareness of the importance of financial literacy from the first steps of school; knowledge of products, concepts and the associated financial risks; evaluating the best diploma topics that promote analysis and critical thinking on central bank economics, finance and policies.

The development of the economy and the financial system in the last three decades ranks Albania as an open, small and developing economy, with a relatively new financial system and a high dynamism. This characterization of the Albanian economy was further strengthened immediately after the privatization of the

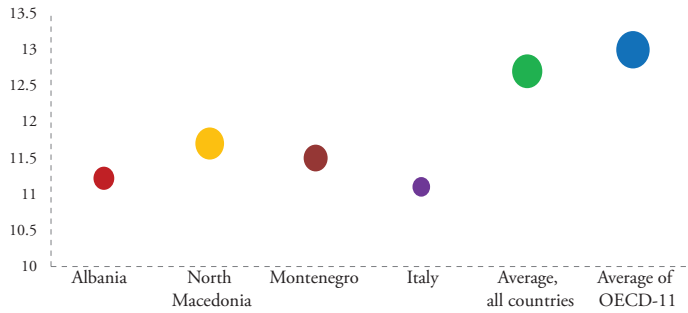
[20] *A detailed summary is provided at the Bank of Albania's official website https://www.bankofalbania.org/Museum and_Education/Education/*

former largest state-owned bank in 2004, and the introduction of foreign banks in the market. These developments have promoted a growing dynamism in terms of deepening financial intermediation, through the provision of numerous and sophisticated products, as well as increasing the presence of new actors in the market, affecting the increase of efficiency and presence of the financial sector in economy. However, despite the positive effects it has brought, there are moments, such as the pyramid schemes in 1997, the withdrawal of deposits in 2002, or the Greek crisis in 2012, which have shown that the lack of proper financial knowledge, accompanied by improper attitudes and financial behaviours are associated with high costs for both the individual and the economy as a whole. Therefore, in a very complex environment, where technological developments, and not only, are rapid and revolutionary, affecting every aspect of life of individuals and society, equipping them with the right financial knowledge, behaviours and attitudes is necessary for the Albanian society. Moreover, the crisis caused by the COVID-19 pandemic stressed the need for families to be as resilient as possible to sudden shocks, as well as the creation of reserves on their part.

In this highly dynamic international environment in terms of increasing financial literacy, promoting financial literacy in Albania must return into a priority. Data of 2019[21] on financial literacy in Albania show that individuals have shortcomings in terms of financial knowledge, attitudes and behaviours. Financial literary, as noted above, is a broader concept that in addition to recognizing basic financial concepts, also includes appropriate financial behaviour and attitudes. The data show that individuals in Albania possess only 53% of financial knowledge, behaviour and attitude. This highlights the fact that there is still much to be done to improve each component of the financial literacy. For 2019, the financial literacy index of individuals in Albania is 11.2 out of 21 which is the maximum level of financial literacy, and is 1.5 points lower than the global average of the financial literacy index estimated by the OECD (2020). Individuals show deficiencies in accurate financial knowledge and behaviour, analysed according to its constituent components - while they are better positioned in financial attitudes.

[21] *For the Financial literacy assessment in 2011 and 2015, see Ceca, et al. (2011) and Isaku et al. (2018). For a complete report for 2019, see Dushku (2019), forthcoming Bank of Albania Working Paper).*

Figure 6 Financial literacy index in Albania compared to other countries



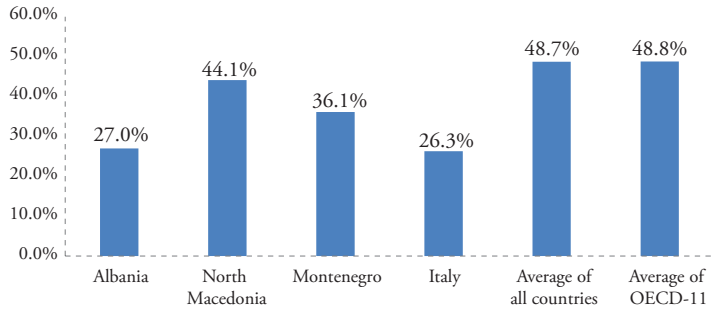
Source: Financial Literacy Survey 2019, OECD 2020.

Related to financial knowledge, the data show that in 2019, only 29% of individuals had the minimum required financial knowledge, an indicator that is almost twice lower than globally, and in OECD countries. The financial literacy index for 2019 is scored of 3.7 out of 7 (maximum value of the index) and is lower than the global average of this index, which scores 4.4. The data show that individuals in Albania have a problem of recognizing the concept of time value of money and the compound interest rate, where only 26% and 11% of individuals answered correctly. While in the world the average of the correct percentages to these questions is 65% and 26% of the total of individuals (Dushku, 2021). Individuals in Albania have more knowledge on loan interest rate, risk, return on various investments and portfolio diversification. The percentage of accurate knowledge answers is close to the average of the countries that participated in the OECD / INFE 2018 survey. Also, almost 3/4 of individuals in Albania understand the definition of inflation, a lower level than the average of OECD countries, but comparable to the responses received from neighbouring countries.

As for financial behaviour, i.e. the approach of individuals to savings, long-term planning, informed purchases, as well as taking into account their flows, the data show that individuals in 2019 own less than half of the appropriate financial behaviour. The financial behaviour index is rated 4.3 out of 9 (maximum value of the index). On the other hand, the data show that only a quarter of individuals

in Albania have the minimum financial behaviour (6 out of 9), compared to the global average 49%.

Figure 7 Percentages of respondents who scored six or more on the question on financial behaviour

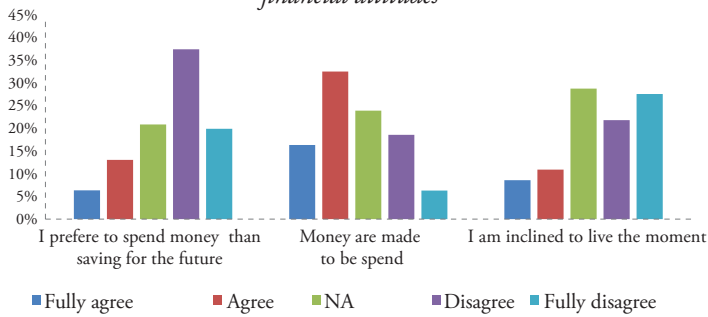


Source: OECD (2020). Financial Literacy Survey in Albania (2019).

In addition to financial knowledge and behaviour, the assessment of financial literacy also includes financial attitudes, which related to the understanding of individuals' preferences regarding savings, spending, and planning for the future. The data of 2019 show that individuals in Albania own 64% of the required financial attitudes; and more than half of them have a financial attitudes index, equal to the minimum target score (3 out of 5). The Financial Attitudes Index scored 3.2 out of maximum of 5 and over 3 which is the average global index of individuals. The data presented in Figure 3 show the percentage of individuals in relation to their financial attitudes. It is observed that 38% of individuals are more pro-attitude that money should not be spent, but should be saved. Also, the data show that more than half of individuals are against the attitude of living only the moment, and think more in the long run. While 50% of individuals agree that money has been made to be spent, versus 25% who think the opposite.

As mentioned above, financial inclusion is an important component that illustrates the awareness and use of financial products, as well as their impact on financial resilience. Financial inclusion is the process of using in a timely and affordable manner of a broad gamma of financial products by all segments of society through

Figure 8 Percentages of respondents on agreement or disagreement on financial attitudes



Source: OECD, (2020), Financial Literacy Survey (2019), author's calculation.

the implementation of tailored, existing and innovative approaches including financial awareness and education, with a view to promote financial well-being, and in turn their economic and social inclusion Atkinson and Messy, 2013). Nevertheless, it should be said that financial inclusion is a two-sided process, requiring the provision of appropriate financial products on the supply side and awareness of those products on the demand side (OECD, 2020).

Data on the Albanian Household Wealth Survey, conducted by the Bank of Albania, in cooperation with INSTAT in 2019, to obtain detailed information on over 2,500 Albanian households, show that Albanian households continue to have a low financial inclusion (Dushku, 2019). The data on the rate of holding financial assets show that 16% of households or about 49% of individuals over the age of 15 own at least one financial asset. Divided by different categories, 31% of individuals (or 10% of households) have current accounts, 21.4% of individuals have deposits and a very small proportion of households have pension funds and government securities. Current accounts and deposits are mostly owned by Albanian households and the rate of their holding is in line with the income and wealth of households. Albanian households mostly hold current accounts and deposits, while it varies by different groups. Households with higher incomes, employees, self-employed, and households with a reference person with a high level of education have more current accounts (20% -30%) and deposits (8% -15%). While households with low

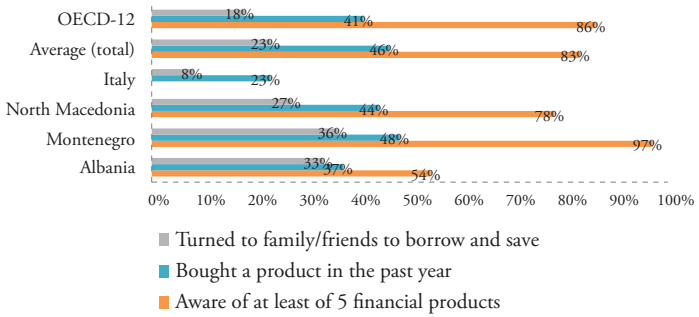
income level, unemployed and with lower level of education, hold a lower percentage of current accounts and deposits (1% -5%) (Dushku, Çami, 2021).

On the other hand, the measurements proposed by OECD / INFE (2018) and included in the financial literacy survey conducted by the Bank of Albania, mostly analyse the demand side of financial inclusion in terms of recognition and use of financial products by consumers.

Data for 2019 (figures 4 and 5) show that individuals in Albania have a higher level of awareness about financial products, while make use of them at a lower extent. Data in figures 4 and 5 display the financial inclusion related to awareness and use of financial products, respectively. Data for Albania in 2019 show that only 54% of individuals know at least five financial products, compared to the 83% average of individuals globally, and 86% in OECD countries. Less than 40% of individuals have used a financial product in the last year, while globally this indicator is less than 50%. One third (or 33%) of individuals in Albania turn to family and close friends to borrow and save money, a higher level than in other countries of the world or in OECD countries.

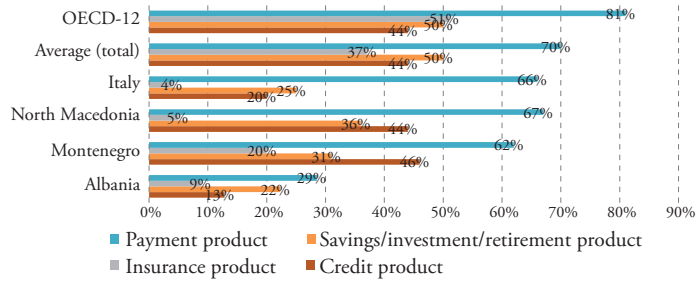
In Albania, payment products such as current accounts, prepaid cards or mobile payment services are the most used financial products, claimed by 29% of individuals. While in the world means of payment find a very wide use, where over 70% of individuals globally or in OECD countries use them. The second most used financial products in Albania are savings products (22% of households), followed by the use of credit products (13% of households) and security products (9% of households). While globally, we have a higher hold of financial products (Figure 5). In general, these figures indicate a low level of financial inclusion in Albania, two to four times lower than the global level of financial inclusion.

Figure 9 Indicators of financial inclusion



Note: Excluding Italy, as there is no data related to the awareness on at least five financial products.
Source: OECD 2020, Financial Literacy Survey 2019.

*Figure 10 Financial product holding**

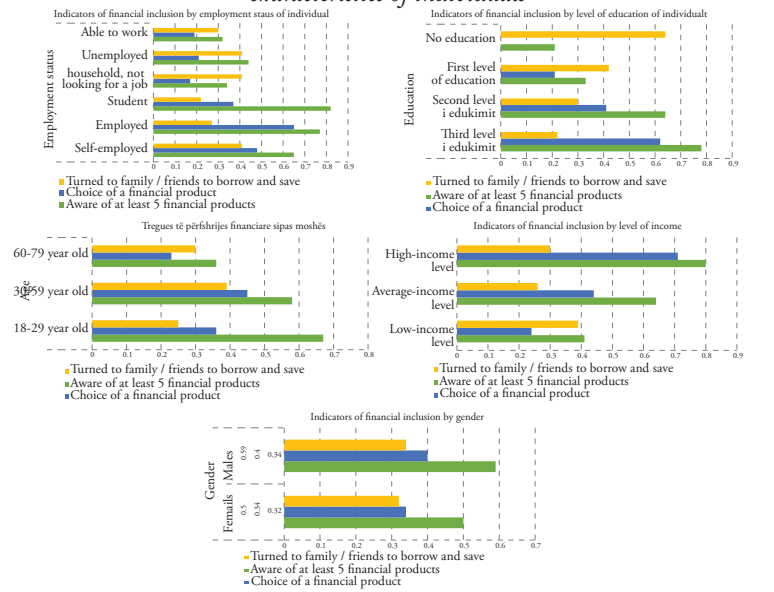


**According to OECD split, payment products (or transaction accounts), include current accounts or mobile money, debit cards or pre-paid payment cards. Credit cards and savings accounts - despite offering payment facilities- are counted as a credit and savings product, thus they are not included in this group. Insurance products, include all types of insurance, vehicle, health, personal liability or home contents, etc. Credit product includes any formal bank loan in Albania, or mortgage loans, consumer loans, micro credits, credit cards.*
Source: OECD 2020, Financial Literacy Survey 2019.

Data disaggregated by socio-demographic characteristics of individuals show that some groups have a less financial inclusion than others. Data in Figure 6 show that the least knowledgeable of at least 5 financial products (below the national average) and who have chosen a financial product during the last year are women, individuals in the age group 60-79, individuals without or with a low level of education, housewives, the unemployed, the incapable of work, as well as low-income individuals. It also turns out: men, individuals in the age group 30-59, individuals living in rural areas, individuals without or with a low level of education, the self-employed, housewives, the unemployed and individuals with low

level of education, are financially mostly supported by families and friends.

Figure 11 Financial inclusion indicators by socio-demographic characteristics of individuals



Source: Financial Literacy Survey in Albania (2019).

Data in Table 3 show the holding of financial products according to the characteristics of individuals. Individuals without education, individuals unable to work, housewives, as well as individuals with low income level in Albania hold financial products. Women, individuals in the age groups 18-29 and 60-79, individuals in rural areas, those without or with low education, students, housewives, the unemployed, disabled persons and low-income individuals hold fewer savings and credit products. Meanwhile, women, individuals aged 60-79 years, individuals living in urban areas, those without and low level of education, students, housewives, unemployed, disabled persons, as well as low-income individuals hold less life / building insurance products, etc.

Table1 Holding financial products by individuals' characteristics

		Payment products	Savings product/ investment /pension	Credit products	Insurance products
Total		28.5%	22.3%	12.8%	8.9%
Gender	Females	29.5%	18.6%	10.1%	5.3%
	Males	27.5%	26.1%	15.6%	12.4%
Age	18-29 years	33.8%	16.0%	11.2%	12.3%
	30-59 years	36.2%	26.6%	16.8%	10.9%
	60-79 years	9.6%	19.8%	6.9%	2.0%
Residence	Urban	39.4%	26.5%	14.4%	8.4%
	Rural	17.4%	18.0%	11.3%	9.3%
Education	Third level of education	64.0%	39.8%	25.5%	7.9%
	Second level of education	25.6%	25.0%	11.2%	13.5%
	First level of education	11.8%	10.5%	7.5%	5.4%
	No education	0.0%	0.0%	0.0%	0.0%
Work situation	Self-employed	19.8%	33.7%	18.7%	14.0%
	Employed	75.4%	36.2%	22.4%	19.1%
	Student	21.2%	16.1%	13.2%	8.2%
	Households, not looking for a job	10.2%	7.9%	5.1%	6.8%
	Unemployed	15.8%	6.9%	9.2%	0.0%
	Able to work	5.6%	15.6%	4.6%	1.3%
Income level	Low-income level	15.2%	10.7%	8.1%	4.8%
	Average-income level	33.4%	29.7%	10.7%	11.4%
	High-income level	63.3%	49.1%	34.4%	18.5%

Source: Financial Literacy Survey in Albania (2019).

Taking into account the low level of financial inclusion of individuals in Albania, the Bank of Albania has taken a number of initiatives to promote and enhance financial education in Albania. The development of the retail payments market, aimed at promoting the use of electronic payments, is one of the most important measures implemented in this regard. To this end, the Bank of Albania has drafted the Albanian National Retail Payments Strategy (2018-2023). Among the most important objectives regarding the inclusion of payments, are the following:

i. Increasing the current number of cashless payments per capita by 130%, to 10 such payments by end-2022.
ii. Increasing an adult account ownership ratio to 70% by 2022, from 40% of adult account ownership observed in 2017.

Another important initiative undertaken by the Bank of Albania was the compilation of the draft law "On payment services", in accordance with the Albanian legislation and the European Union Directive "On payment services in the internal market". The implementation of this law, approved by the Assembly of the Republic of Albania, in 2021, aims at promoting competition and innovation in the field of retail payments, thus enhancing the effectiveness and reducing the costs of their use. On the other hand, it is intended to balance the space for the provision of payment services between banks and non-bank financial institutions, which for the first time will have the opportunity to open payment accounts and issue electronic payment instruments, expanding the alternatives for public selection at large (Semi, 2019).

Digital inclusion aims to provide a higher number of individuals with access to and use of financial services, at a lower cost, to meet their needs and requirements. On the other hand, the inclusion of that part of the population not currently included by banks or other non-bank institutions helps them to make transfers, accumulate wealth, become financially empowered and increase their economic participation. Undoubtedly, the provision of new products is associated with risks for both consumers and regulators. These risks are related to the new nature of the products offered. Thus, in the law on "Payment services" importance has been given to addressing consumer protection, through the creation of a separate unit within the Bank of Albania for alternative dispute resolution. This development is in line with the latest revisions of the Law "On consumer protection" by the Ministry of Finance and Economy (Semi 2019).

Hence, we conclude that despite all the measures listed above, there is still much work to be done regarding financial literacy and inclusion, which remain important challenges that need to be addressed. Another initiative recently undertaken by the Bank of Albania is to

engage in the design of a national financial education strategy, to undertake a coordinating role amid stakeholders to turn financial literacy and education a national priority. The goal of this strategy will aim at enhancing the right financial knowledge, behaviours and attitudes, achieving an increased financial inclusion, well-being and stability.

REFERENCES

Adrian, T., & Mancini-Griffoli, T. (2019). The rise of digital money. IMF Note, no 19/001, July.

Andolfatto, D. (2021). Assessing the Impact of Central Bank Digital Currency on Private Banks. The Economic Journal, Vol.131 (634), February 2021, 525–540.

BIS. (2018). Central bank digital currencies. Report by Committee on Payments and Market Infrastructures (March 2018).

BIS. (2018-b). Cyber-resilience: Range of practices, Basel Committee on Banking Supervision (December 2018). Retrieved from https://www.bis.org/bcbs/publ/d454.pdf. BIS. (2020). The digital economy and financial innovation. BIS Papers No. 109.

Boar, C., & Wehrli, A. (2021). Ready, steady, go? - Results of the third BIS survey on central bank digital currency. BIS Papers No 114, 27 January 2021.

Boar, C., Holden, H., & Wadsworth, A. (2020). Impending arrival - a sequel to the survey on central bank digital currency. BIS Papers No. 107 (23 January 2020).

Bolton P., -Despres, M., Pereira Da Silva, L.a., Samama. F., Svartzman, R., (2020), "The green swan Central banking and financial stability in the age of climate change" BIS, Jan. 2020, ISBN 978-92-9259-325-4 (print), ISBN 978-92-9259-326-1 (online).

BSF. (2019-a, Feb 14). FinTech and market structure in financial services: Market developments and potential financial stability implications. Retrieved from Financial Stability Board, (Report 14 Febryary 2019): https://www.fsb.org/wp-content/uploads/P140219.pdf

BSF. (2019-b, May 31). Crypto assets: Work underway, regulatory approaches and potential gaps, Financial Stability Report, 31 May 2019. Retrieved from https://www.fsb.org/wp-content/uploads/P310519.pdf

Carstens, A. (2021). Digital currencies and the future of the monetary system. Hoover Institution policy seminar, Basel 27 January 2021.

Cerutti, E., Claessens, S., & Ratnovski, L. (2017). Global Liquidity and Cross

Border Bank Flows. Economic Policy, 32(89), 81–125.

Danielson, J. (2018). Cryptocurrencies: Policy, economics and fairness. Systemic Risk Center Discussion Paper, No 86. (November 2018).

Fernández-Villaverde, J., & Sanches, D. (2016). Can Currency Competition Work? NBER Working Paper 22157 (April 2016).
Friedman, M. (1968). The Role of Monetary Policy. American Economic Review. 58 (1), 1–17.

Gerba, E., & Rubio, M. (2019). Virtual Money: How Much do Cryptocurrencies Alter the Fundamental Functions of Money? A document by the Europian Parliament Think Tank.

GPNF. (2018, 10). International Standarads of measures against Money Laundering and Against Terrorism Financing: Recommendations, (Implemented by FATF in February 2012, Updated in October 2018). Retrieved from FATF: International Standards On Combating Money Laundering and the Financing Of Terrorism & Proliferation: The FATF Recommendations, FATF: https://www.fatf-gafi.org/media/fatf/documents/recommendations/pdfs/FATF%20Recommendations%202012.pdf

Grey, R. (2019). Banking Under a Digital Fiat Currency Regime, in The Blockchain Revolution: Political and Legal Challenges, ed. G. Dimitropoulos, S. Eich, P. Hacker, and I. Lianos, Oxford University Press, Oxford, U.K.

Group of Thirty. (2020). Digital currencies and stablecoins: Risks, opportunities and challenges ahead. Report of the Group of Thirty's Steering Committee.

Hoda, B. (2019). Electronic Money and Financial Technology: Un update (unpublished).

European Commission. (2018). FinTech Action plan: For a more competitive and innovative European financial sector.
Retrieved from European Commission COM(2018) 109/2: https://ec.europa.eu/info/sites/info/files/180308-action-plan-fintech_en.pdf

Kumhof, M., & Noone, C. (2019). Central Bank Digital Currencies: Design Principles and Balance Sheet Implications,. Staff Working Paper No. 725, Bank of England.

Williamson, S. (2019). Central Bank Digital Currency: Welfare and Policy

Implications. 2019 Meeting Papers 386, Society for Economic Dynamics.

Isaku, E., Ceca, K., Koleniço, A., (2018), "Financial literacy in Albania: 2015 survey results analysis (November 2018)", Bank of Albania, Research Paper 37 (76), 2019.

Bank of Albania 2020 (annual report, quarterly monetary policy reports).

Ceca K., Koleniço A., Isaku E., Haxhimusaj B.,(2014) "Financial literacy in Albania: Survey results on the financial literacy of population, 2011", Bank of Albania, Research Paper 37 (76), 2019.

OECD/INFE International Survey of Adult Financial Literacy Competencies, OECD, 2016.

OECD/INFE Toolkit for measuring financial literacy and financial inclusion, March 2015.

OECD/INFE Toolkit to Measure Financial Literacy and Inclusion (OECD, 2018d)),OECD (2005) "Improving financial literacy".

INFE, Guide to creating financial literacy scores and financial inclusion indicators using data from the OECD/INFE 2015 financial literacy survey, 13 September 2016.

OECD (2021), Financial Literacy in Austria: Relevance, evidence and provision.

OECD (2020), OECD/INFE 2020 International Survey of Adult Financial Literacy; Dushku, E (2021), " Evidences on financial literacy in Albania", Forthcoming.

Semi, V (2019), "Payment market in Albania and the need for reformation; the contribution of the draft-law on payment services in developing both payments (directly) and remittances (indirectly)", Bank of Albania "Diaspora and payments magazine, 2019".

Acemoglu, D. and P. Restrepo (2017). «Secular stagnation? The effect of aging on economic growth in the age of automation». American Economic Review.

Hansen, A. H. 1939. "Economic Progress and Declining Population Growth." American Economic Review 29: 1–15.

Summers, Lawrence. 2013. "Why Stagnation Might Prove to be the New Normal." Financial Times. December 15. https://www. ft.com/content/87cb15ea-5d1a-11e3-a558- 00144feabdc0.

Teulings, Coen, and Richard Baldwin. 2014. Secular Stagnation: Facts, Causes and Cures. Washington, DC: CEPR Press.

Acemoglu, D. and P. Restrepo (2017). «Secular stagnation? The effect of aging on economic growth in the age of automation». American Economic Review.

Aksoy, Yunus, Henrique S. Basso, Ron P. Smith, and Tobias Grasl. 2019. «Demographic Structure and Macroeconomic Trends.» American Economic Journal: Macroeconomics, 11 (1): 193-222.DOI: 10.1257/mac.20170114.

Derrien, François and Kecskes, Ambrus and Nguyen, Phuong-Anh, Labour Force Demographics and Corporate Innovation (May 2, 2020). HEC Paris Research Paper No. FIN-2017-1243, Available at:
SSRN: https://ssrn.com/abstract=3076971 or http://dx.doi.org/10.2139/ssrn.3076971.

INSTAT (2021). Statistical database. URL: http://databaza.instat.gov.al/pxweb/sq/DST/.

Summers, Lawrence. 2013. "Why Stagnation Might Prove to be the New Normal." Financial Times. December 15. https://www.ft.com/content/87cb15ea-5d1a-11e3-a558- 00144feabdc0

Teulings, Coen, and Richard Baldëin. 2014. Secular Stagnation: Facts, Causes and Cures. Washington, DC: CEPR Press.

King, R., I. Gëdeshi (2020a), "New trends in potential migration from Albania: the migration transition postponed?", Migration and Development, 9(2): 131-151.

King, R., I. Gëdeshi (2020b), "The actual and potential migration of students from Albania: A putative Brain Drain?", F. Ebert Foundation.

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1.

Yoon, Jong-Won, Kim, J. and J. Lee (2019). Impact of Demographic Changes on Inflation and the Macroeconomy, IMF Working Paper WP/14/210.

Spence, M. (2021), "Lessons from digital India", Project Syndicate, https://www.project-syndicate.org/commentary/lessons-from-digital-india-by-michael-spence-2021-