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USAGE OF THE TERMINOLOGY "NEW LEK" AND "OLD LEK": DATA FROM THE SURVEY ON "MEASURING THE FINANCIAL LITERACY (2019)[1]

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THE HISTORICAL CONTEXT

The monetary reform in 1965, brought the substitution of the previous Lek banknotes with new banknotes, with a 10 to 1 ratio, changing by the same measure the expression of prices, wages and all the other financial transactions. Since then, a good part of the public has not yet adapted to this change and still communicates by using "old Lek." This erroneous connotation causes confusion when trying to communicate the prices of goods and services and correctly read the economic and financial indicators.

THE METHODOLOGY

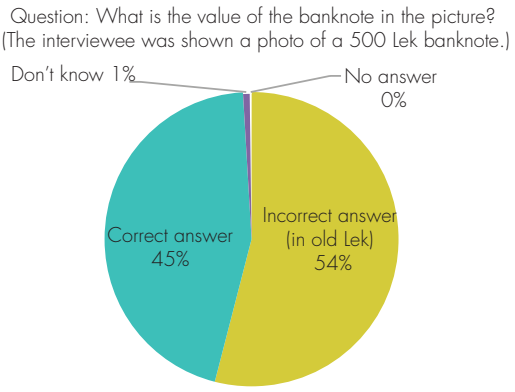
The observed sample consists of 1000 individuals, aged 18-79 years old, and is stratified by the representative features of the Albanian population: gender, age and region (urban/rural). The Bank of Albania has cooperated with INSTAT to determine the characteristics of the surveyed statistical sample and its geographical distribution. The three levels method of selection was used to randomly pick the respondents. The on-site surveying of the selected sample was conducted by INSTAT, using face-to-face interviews.

THE MEASUREMENT ANALYSIS

To measure the erroneous use of the terminology "new lek/old lek" in our country, 9 questions were used, which were included in the Survey of Measuring the Financial Literacy (2019). One of these questions tests the interviewee about the erroneous reading of the banknote value, and 8 questions require the identification of the daily life situations when he/she usually communicates using "old Lek." The questionnaire collects sufficient socio-demographic data on the respondent - such as gender, age, region, education, employment and level of family income, thus enabling a complete analysis of the groups that present more difficulties in reading correctly the value of the banknote.

[1] *The analysis was prepared by: Arlinda Koleniço and Egnis Isaku. The authors extend their gratitude to Mr. Kliti Ceca for his contribution in processing the survey data.*

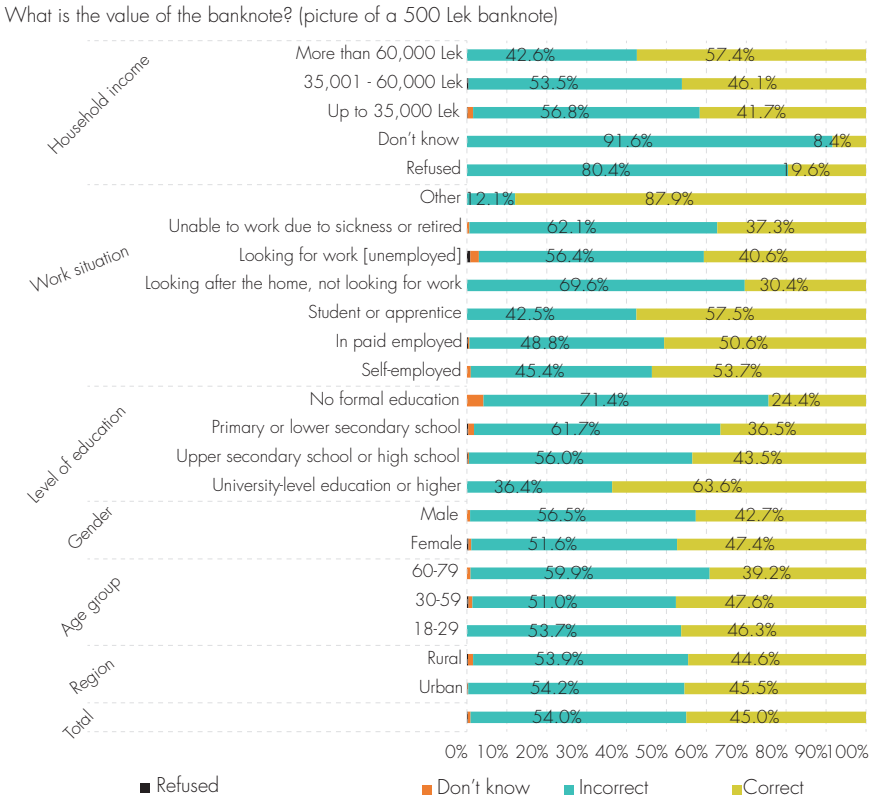
Chart 1 Reading the banknote value



Source: Survey on Measuring the Financial Literacy (2019), Bank of Albania.

When shown a picture of the 500 Lek banknote, more than half (54%) of the interviewees instinctively read the banknote value incorrectly, adding a 0 to it to convert it into "old Lek" (Chart 1). The purpose of this question was to objectively assess the usage of the terminology "new Lek/old Lek" in order to measure the real behaviour of the interviewees, beyond its subjective self-evaluation.

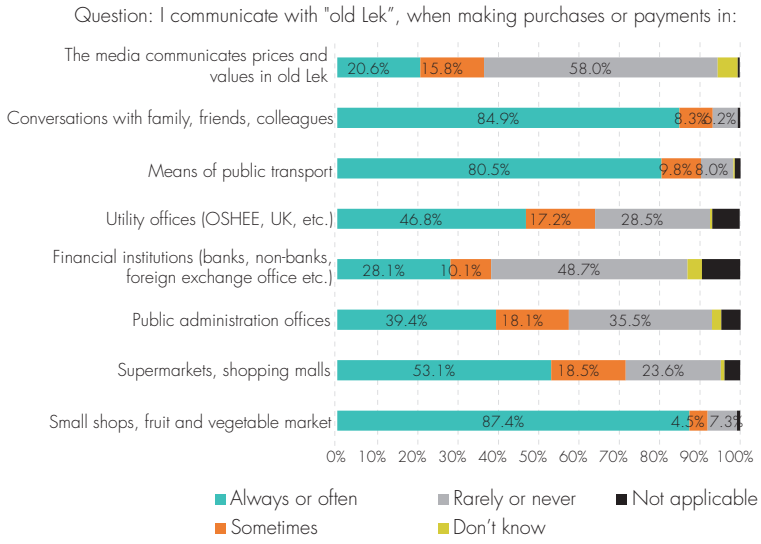
Chart 2 Reading the value of the banknote according to the demographic data



Source: Survey on Measuring the Financial Literacy (2019), Bank of Albania.

As regards the analysis by socio-demographic groups, the results of the survey show that while reading the banknote value, the most mistaken are: (i) males (56.5%); (ii) elderly (over 60 years old, 59.9%); (iii) individuals with a low level of education (low level of education and no formal education, 66.6%); (iv) individuals that are not active in the job market (looking after the home or unemployed and unable to work or retired, 65.8%); as well as (v) those with low level of income (56.8%). Whereas there are no differences in correct answers registered between individuals living in urban areas (54.2%) and those living in rural areas (53.9%).

Chart 3 How often do you communicate using "old Lek" in different situations?



Source: Survey on Measuring the Financial Literacy (2019), Bank of Albania.

After testing the correct reading of the banknote value, the interviewees were required to evaluate the frequency of communicating through "old Lek" in various contexts.

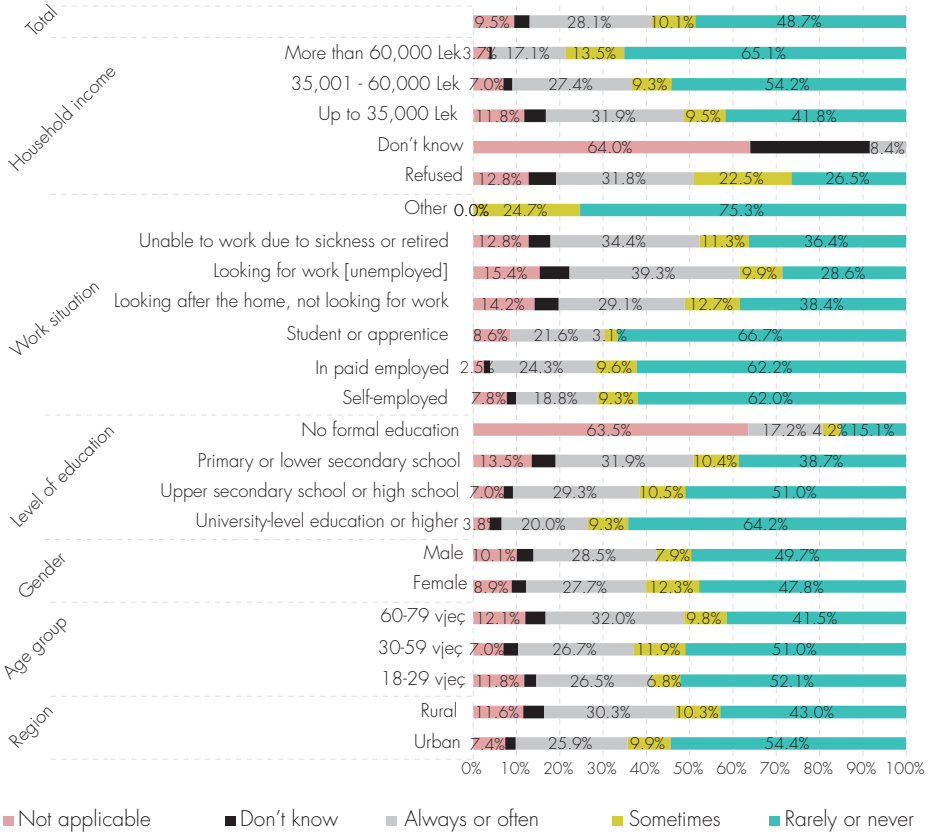
As shown in Chart 3, as regards the type of interactions or situations where the interviewees use "old Lek" more frequently in their conversations, a great majority admit that they "often or always" communicate in this form in: small shops or fruits/vegetables markets (87.4%); conversations with family members, friends or colleagues (84.9%); and when using the public transportation (80.5%).

The erroneous communication of the Lek value happens quite rarely in financial institutions (banks, non-banks etc., 28.1%) or in public administration offices (39.4%), although these levels were expected to be lower or close to zero.

Media, whether press or audio-visual, is an important factor that largely impacts the way the public communicates. For this reason we aimed to gather the public's perception on how prices and monetary values are expressed in

the media. Therefore, when asked about how often media communicates in "old Lek," 20% of the interviewees responded "always or often," and 16% responded "sometimes." This percentage, albeit low, brings to light the need for greater involvement of the media in tackling this phenomenon and eradicating it, particularly taking into account both its duty to convey the real and correct information to the public and its educational role.

Chart 4 How often do you communicate in "old Lek" in financial institutions, analysed by socio-demographic features?



Source: Survey on Measuring the Financial Literacy (2019), Bank of Albania.

The frequency analysis of communication with "old Lek" in various financial institutions is of particular interest to the central bank, not solely due to its supervisory role over the banking and financial system, but mainly due to the crucial importance that the accurate communication of the national currency value has in this environment.

In their interactions with banks/financial institutions, individuals may find themselves forced not to use incorrect terms, due to the financial consequences that might be caused by possible misunderstanding when reading the value, but also because the employees of banks/financial institutions communicate these values correctly. This is also reflected in the data collected by the survey regarding the frequency of communicating in "old Lek" in financial institutions, which, as shown in Chart 3, are the environments where individuals err more rarely.

In line with the data on misreading the banknote value (Chart 2), the data on the frequency of communicating in "old Lek" in banks/financial institutions (Chart 4), shows that the socio-demographic groups that communicate more often using the wrong terms are: (i) males (28.5%); (ii) elderly (32%); (iii) individuals with lower secondary or primary school (31.9%); (iv) unemployed looking for work (39.3%), or unable to work/retired 34.4%; as well as (v) those with low level of income (31.9%). In this case, there are differences observed between individuals residing in urban areas and those of (vi) rural areas, the latter more inclined to communicate using the wrong terms (30.3%) in banks/financial institutions.

CONCLUSIONS

The analysis on measuring the use of "new Lek" and "old Lek" terminology by adults in Albania, showed that 54% of them - even after 55 years from the monetary reform that brought about the change in the value of Lek - continue to think and communicate in old Lek. This phenomenon is observed often or always, mainly in non-formal environments: small shops or fruits/vegetables markets (87.4%); conversations with family members, friends and colleagues (84.9%); followed by while using public transportation (80.5%). On the other hand, the erroneous communication of the value of lek happens very rarely in financial institutions (banks, non-banks etc., 28.1%), or public administration offices (39.4%), although these levels were expected to be lower or close to zero.

As regards the analysis by socio-demographic groups, survey results show that while reading the value of banknote, the most inclined to make mistakes are: (i) males; (ii) elderly; (iii) people with a low level of education; (iv) individuals not active in the job market; and (v) those with a low level of family income. The groups identified above constitute also the focus of the awareness-raising projects of the Bank of Albania's campaign to eliminate the use of the erroneous terminology "new Lek/old Lek."

THE FINANCIAL FRAGILITY OF ALBANIAN HOUSEHOLDS AND COVID-19[1]

Elona Dushku, Research Department, Bank of Albania

I. INTRODUCTION

This article aims at exploring the financial fragility of Albanian households, and assessing the level of household income and consumption affected by the restrictive measures in place on the total economic shutdown in the period March and April 2020 to containing the spread of COVID-19. The Albanian households' fragility and relevant assessments are based on the detailed data of households taken from the "Albanian Household Wealth Survey (AHWS): Results of the First Wave", introduced in 2019 by the Bank of Albania.

This survey[2] was completed voluntarily by 2,261 households, across Albania, pursuant to the selection by INSTAT. The results from this survey are weighted, thus, they may be used for generalising the behaviour of the Albanian households. We bring to your attention that the analysed data are self-statements of households regarding their financial and borrowing situation. Micro data on households enables us to get insights the various aspects of their behaviour in relation to finances, debt, consumption, as well as their impact on various macroeconomic shocks that may jeopardise households' finances. Overall, data from Albanian Households Wealth Survey show that income from labour and remittances were the main source to households' total income. In 2019, only 30% of Albanian households had a debt to pay, and the owing debt ratio differed across various households. Data show a low level of households' financial inclusion in 2019, whereas only 16% of them own at least one financial asset. Estimates on debt to service ratio show that households that have the unemployed reference person as well as households with incomes below its 40th percentile are classified as households more vulnerable to income shocks. Data show that Albanian households can withstand from four to seven months (median and average) to an income shock, nevertheless their resilience differs depending on the household characteristics. On the other hand, assessments related to the impact of the shutdown in March and April 2020, reveal that net total income of households reduced by 13-16% over 2020, while their consumption was down by 9-11%. In addition, the number of poor households is expected to climb by 23 thousands to 27 thousands in 2020, driving poor households to account for 30% of the total Albanian households.

[1] *The views expressed herein are solely of the author and do not necessarily reflect those of the Bank of Albania. The scenarios and analyses are realised during June 2020.*

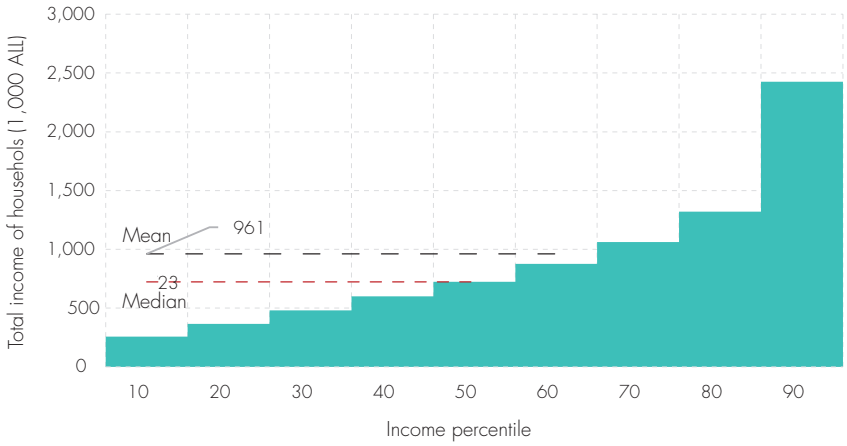
[2] *For more see Dushku, Cami, "**Albanian Household Wealth Survey-AHWS**): First wave results "Working paper, Bank of Albania, to be published in 2022.*

The article is organized as follows: the next part addresses the financial situation of Albanian households in terms of income, debt and its burden over the course of 2019. The third part presents the results of scenarios built up on the impact of the complete restriction measures to contain COVID-19 spread, on the Albanian household income and aggregate consumption. The last part provides a summary of findings.

II. FINANCIAL AND BORROWING SITUATION OF THE ALBANIAN HOUSEHOLDS

The information on household income provides a complete view on the economic and financial situation of Albanian households and their importance to withstand different shocks. Chart 1 plots the full distribution of net annual income of households, from the lowest level of income (fifth percentile) to their highest level (95th percentile). Data from the survey show that the average annual net income[3] of Albanian households was ALL 0.96 million (ALL 80,115 per month), while the median[4] was ALL 0.72 million (or ALL 60,259 per month). Assessments show that 26% of Albanian households have income lower than 60% of median income, by classifying them as poor households (according to the European Union definition)[5].

Chart 1 Distribution of total annual net income of households (in ALL thousand)



Source: Albanian Households Wealth Survey (AHWS).

Based on income percentile, data show that the wealthiest households (at the 95th percentile) have 3.4 times higher income than households with average income (at the 50th percentile). Meanwhile, middle- income households (at the 50th percentile) have four times higher income than low-income households

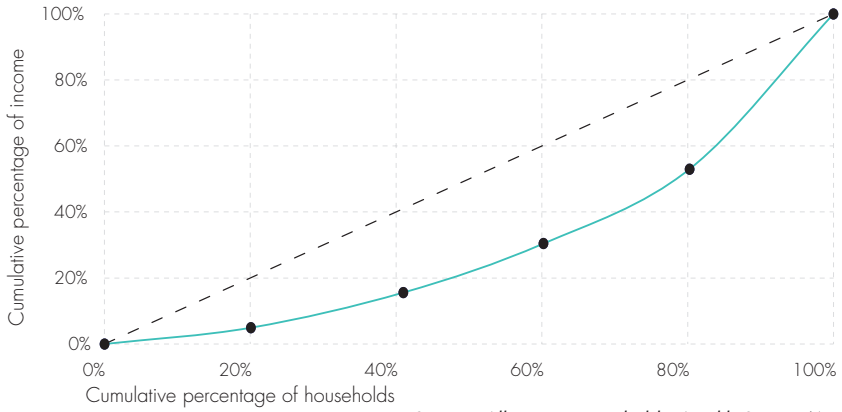
[3] *Total annual income of households are composed from employment income (income from employments, self-employment, unemployment income), and income from unemployment (income from remittances, social aid, income from real and financial assets).*

[4] *Median is a good indicator for showing the situation related to the data on income, wealth or debt, as it cut-off results into two equal parts.*

[5] *HFCS Report (2017)*

(at the 5th percentile). On the other hand, Lorenz curve (Chart 2) displays that 20% of the wealthiest households own 37% of total household income. Meanwhile, 20% of poorest households own 5% of them.

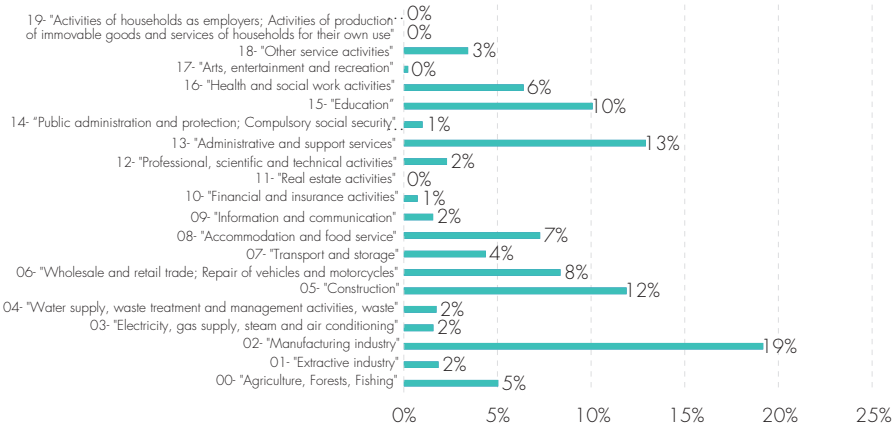
Chart 2 Income percentage owned by household percentage (Lorenz Curve)



Source: Albanian Households Wealth Survey (AHWS).
Note: Interrupted line 45o shows the equality line between the percentage of income and the percentage owned by households.

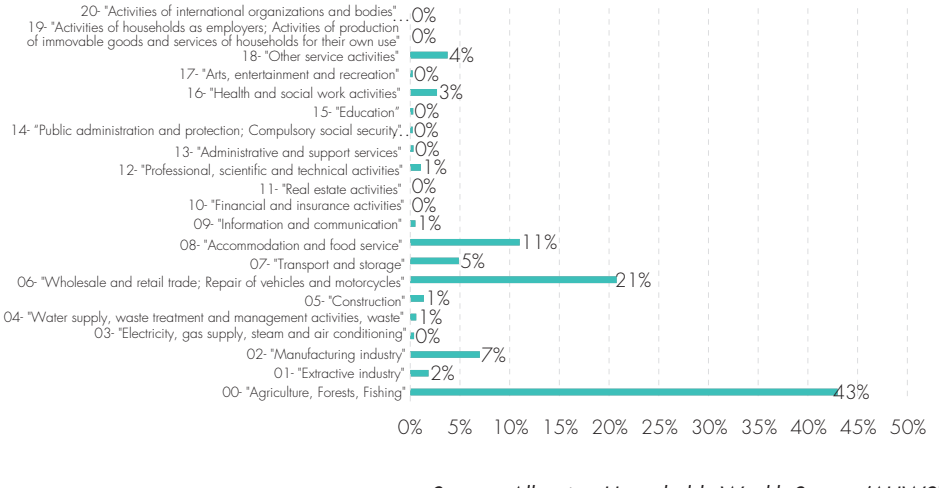
Based on the employment situation of each individual above 16 years old, data show that 42% of population are employed and self-employed, 23% unemployed, 20% retired persons, and the rest (15%) are students, and permanent disabled persons. Employed persons mainly work in: processing industry; administrative and supporting services; construction; education; retail and whole sale trade (Chart 3). While self-employed persons mainly work in: agriculture; retail and whole sale trade; accommodation and food service, and processing industry (Chart 4).

Chart 3 Distribution of employed persons by sector



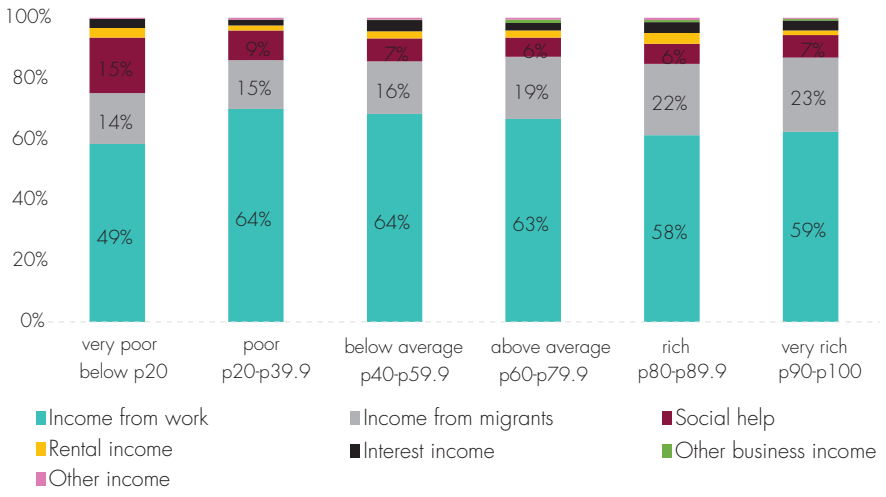
Source: Albanian Households Wealth Survey (AHWS).

Chart 4 Distribution of self-employed persons by sector



Classification by income source (Chart 5) shows that labour income have been the main income source to Albanian households in 2018, accounting for 49% to 64% of total income. Remittances are the second most important income source, accounting for 14-23% of total income, while social aid is the third source[6] ranging from 6% up to 15% of total income. It is noted that other income sources, as income from rent or interest income, have rather small percentage in the total income. The above statistics show that income from labour along with remittances, account for around 60% to 80% of household total income, thus having a determinant impact on both financial and consumer behaviour of household.

Chart 5 Income source as a percentage to total income

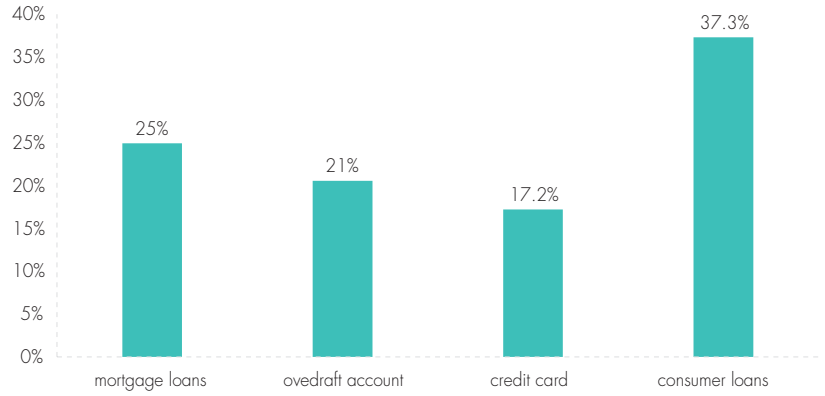


Source: Albanian Households Wealth Survey (AHWS).

[6] *Social aid (profit) are regular public impediments that the households receives from social insurances or other governmental agencies, for example subvention for illness, maternity leave, children bonus, student scholarship to children and any other financial support for their education.*

The fragility of households is determined not only by the level of income, but also by their exposure to credit. The data show that in 2019, only 30% of the total number of households in Albania have at least one debt. 45% of the household have a formal debt (banks and non-bank financial institutions) and 55% have informal debt (such as money owed to households and relatives). The distribution of formal debt is as follows; 25% of households have mortgage loans, while 75% of households have uncollateralized loans, respectively 37% of households have consumer loans, 21% have overdraft accounts and 17% have credit cards (Chart 6).

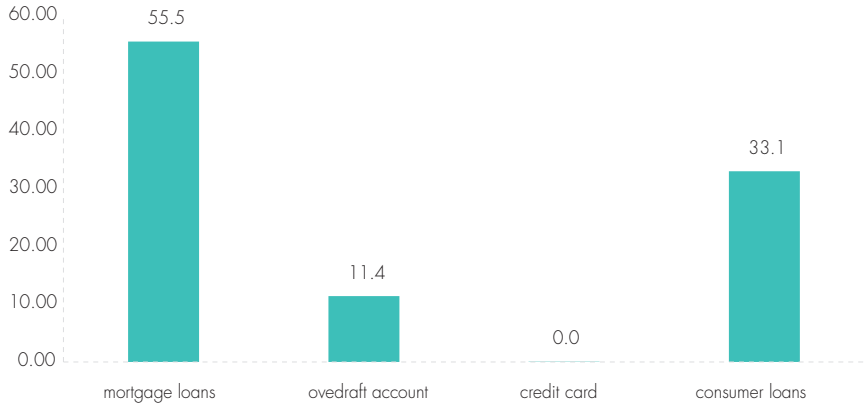
Chart 6 Percentage* of household number by type of loan



*Percentages are calculated based on the household number declaring to have a debt to pay.
Source: Albanian Households Wealth Survey (AHWS).

In terms of credit portfolio's value, mortgage loans account for 56% of total portfolio; consumer loans 33%; while total overdrafts and credit cards account for 11% (Chart 11).

Chart 7 Distribution of credit portfolio from the financial system



Source: Albanian Households Wealth Survey (AHWS).

Based on the employment status of the reference person[7] and the level of income, data show that households that have the reference person either

[7] Reference person in one household is the that person have more knowledge on finances and family consumption.

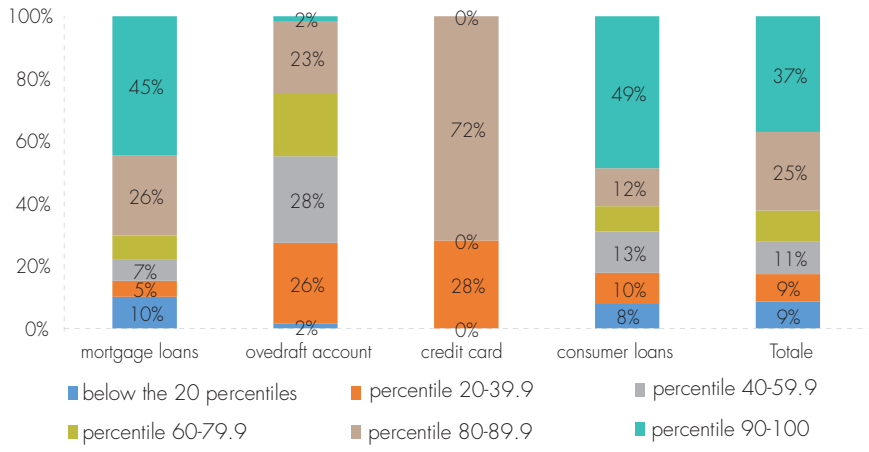
employed or self-employed, own 74% of credit portfolio, and are mainly exposed to mortgage loans, credit cards and consumer loans (Chart 8). Households with the reference person unemployed are exposed to overdraft accounts and consumer loans.

Chart 8 Distribution of total loan portfolio by the employment status of the reference person

Source: Albanian Households Wealth Survey (AHWS).

Based on the level of net annual income (Chart 9) it is observed that groups of households with income below the 60th percentile of income, own 28% of the total loans provided by the financial system, while households with incomes above the 60th level of income percentiles own 72% of total loans. Households with incomes below the 60th percentile of income are mainly exposed to overdraft and consumer loans, owning 55% and 31% respectively, of these loans. While households with income level above the 60th percentile of income are mainly exposed to mortgage loans and credit cards, owning 79% and 72% respectively, of these loans (Chart 9).

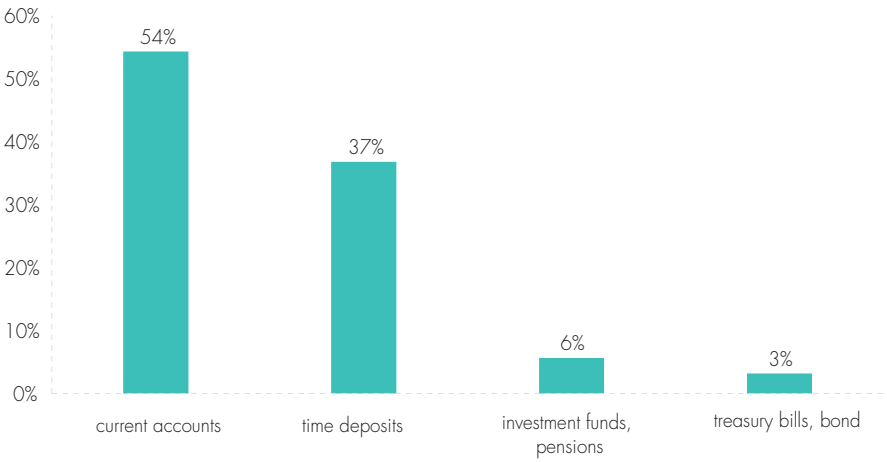
Chart 9 Distribution of formal debt portfolio of households by relevant income level



Source: Albanian Households Wealth Survey (AHWS).

Households' fragility is determined by the level of income and debt, coupled with the level of liquid assets that the household has, that may be used in a family emergency event, or in case of income loss. Data show that in 2019, 18% of total households have at least one financial asset, distributed as follows: 54% of households (who have financial assets) have current accounts, 37% have time deposits, 6% have investment funds and 3% have T-bills and bonds. The value of financial assets to total income is assessed to account from 9% up to 11% of total household income, showing a low level of households' savings.

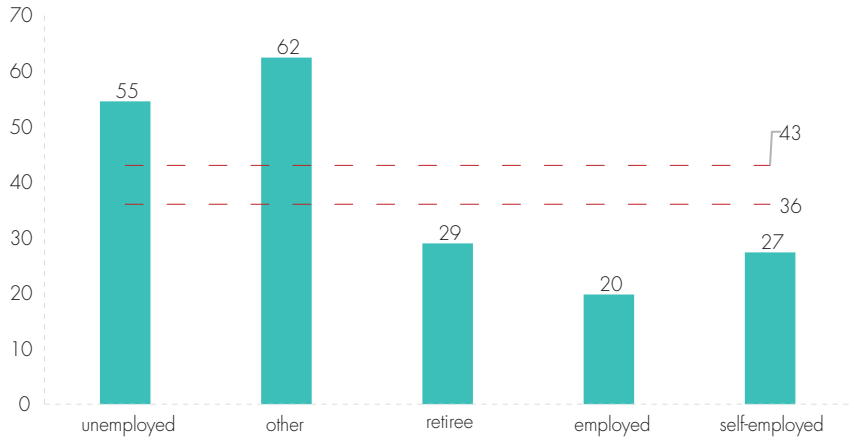
Chart 10 Distribution of financial assets owned by households



Source: Albanian household finance and consumption Survey (HFCS).

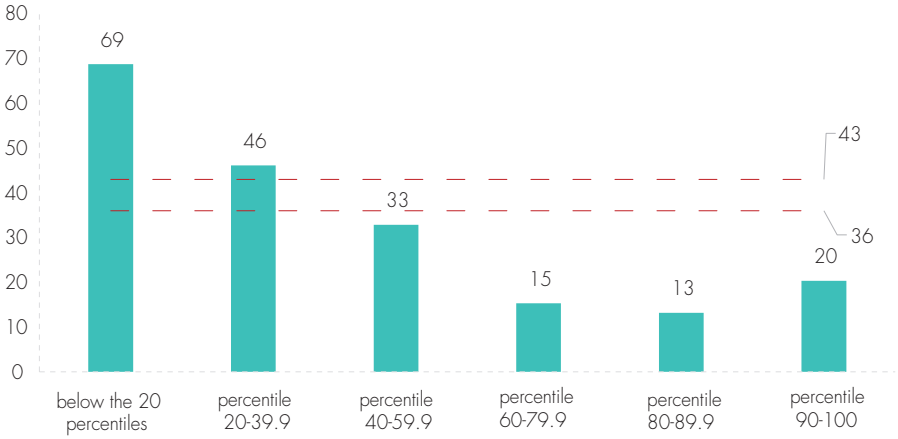
To assess which group of households is more exposed to credit, we have calculated its burden (the sum of monthly liabilities of households) to total monthly income per each group. Data in Chart 11 show that households having the reference person in the group of "unemployed" and "other" are the most vulnerable groups to loans, as they have a debt to service ration at 55% and 62% of income. This level is higher than 43%, which is considered the threshold one. Beyond this level the received loan turns into a non-performing loan and put in difficulty the household's creditworthiness. Households with income below the 40th percentile are most vulnerable to financial and economic risks, where debt to service ratio accounts for 46% and 64% of total monthly income of household (Chart 12). Thus, a shock on either households' income or monthly liabilities or on both, will affect the debt service ratio of household. Assessments show that 15-18% of households have a debt to service ratio above 43%, turning this households and the relevant financial situation more vulnerable to shock on both income and credit cost.

Chart 11 Household debt service ratio by employment status of reference person



Source: Albanian Households Wealth Survey (AHWS).

Chart 12 Household debt service ratio by percentile of household income (%)

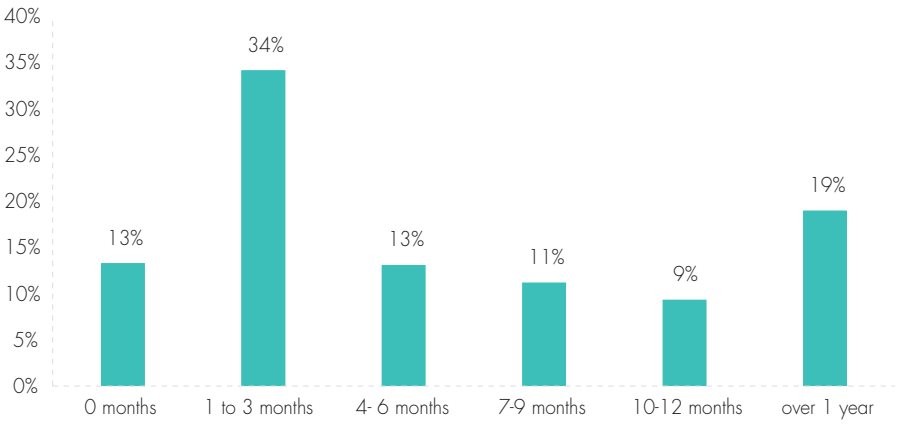


Source: Albanian Households Wealth Survey (AHWS).

To look at how resilient households are to shocks on income, we have analysed if households have sufficient financial assets to meet their financial liabilities and ensure minimum consumption. Households' financial resilience is defined as the number of periods (months) over which a household may cover the minimum consumption[8] and the debt burden with liquid assets in event of income loss. Survey data show that median and average resilience of households are four and seven months, respectively. It shows that households may withstand an income shock from four to seven months. Nevertheless, analysed in more details, data show that 47% of households may withstand less than three months with no income, while 13% of households may afford no month without any income. Only 19% of households have sufficient financial liquids to cope with the shortage of income for more than one year.

[8] *OECD defines minimum consumption as the 50% of income median of households.*

Chart 13 Financial resilience of households to income shocks



Source: Albanian Households Wealth Survey (AHWS).

III. IMPACT OF COVID-19 CONTAINMENT MEASURES ON ALBANIAN HOUSEHOLDS

As mentioned above, income from employment and remittances are the main source of income for Albanian households. Hence, any shocks on them will affect both households' income and total consumption. Assessment of the impact of economic shutdown measures on Albanian households, in the period March and April 2020, to prevent the spread of COVID-19, is performed by applying two scenarios: the first scenario considers only the impact of income drop directly driven by the closure of many activities; while the second scenario considers in addition the cut in remittances. Total effect of measures is defined as the sum of many effects triggered by both shocks together. At the beginning, based on survey data we have assessed the number of employed persons and self-employed persons affected by the closure of activities, as announced by the General Directorate of Taxes on 20 March 2020, thus also the number of households directly affected by this measure. Next, we assess the impact of implemented measures on the household income, by considering the effect of "war salary"[9] and the compensation to the self-employed persons in sectors that were closed due to the measures.

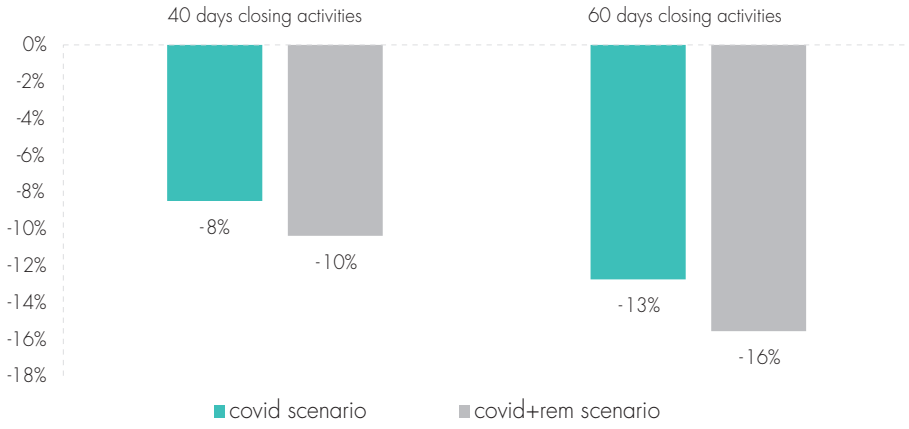
It is assumed that the negative shock appears only on closed activities, without considering the interconnections and the chain effects that the closure of these activities causes to other sectors of economy or the second and third waves effects pass through. As a second shock we have assessed the impact that the fall in remittances would have on the Albanian household income. In March 2020, the World Bank predicts that global remittances are projected to decline sharply by about 20 percent in 2020 due to the economic crisis induced by the COVID-19 pandemic. In the dataset of the Survey on the Albanian Household Wealth we succeed to identify the recipient households of remittances, we have calculated the impact their decline will have on the income of household during the closure period.

[9] *We assume that all employed persons in sector affected by the measures have received the war salary.*

Thus, the impact of the total shut down of economy in Albania and globally, on the households income is calculated as the linear combination of both scenarios, fall of income from work and decline in remittances. The closure period corresponds from 40 days to 60 days, as the activity re-opened gradually, thus results obtained from the scenarios are presented through intervals.

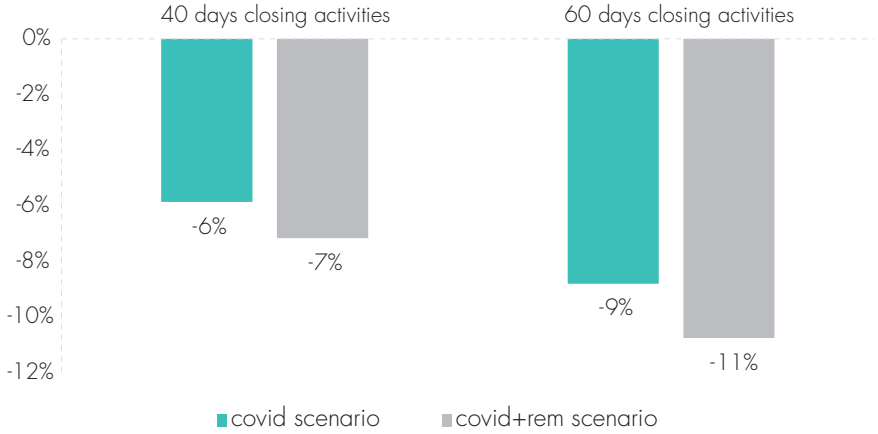
Assessments from Albanian Households Wealth Survey show that the income to 32% of total employee and 27% of total self-employed were directly affected due to the shutdown. Their incomes declined by 16% and 27%, respectively. At macro level, estimation reveals that total income of households due to the closure of activities coupled with the decline in remittances (Scenario COVID + Rem) will drop from 13% to 16%, during 2020. Nevertheless, this impact is expected to be uneven, by considering the differences across different household groups. Information from the survey exhibits that 69% of income is for consumption, thus our assessments display that total consumption of households will reduce by around 6-11% (Chart 15), related to more fragile groups, consumption may fall by 10-19%.

Chart 14 Impact on total income of households



Source: Albanian Households Wealth Survey (AHWS).

Chart 15 Impact on total consumption of households

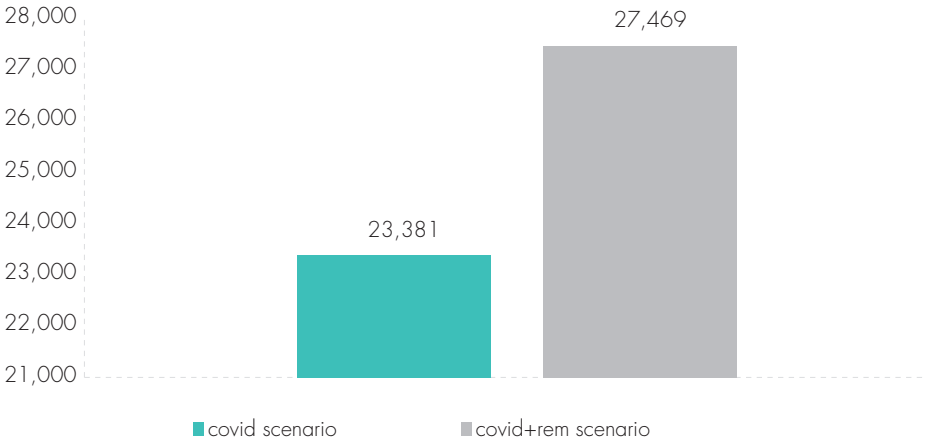


Source: Albanian Households Wealth Survey (AHWS).

Decline in the household income automatically would be translated into an increase of debt burden to households who have a loan to pay in the banking system. At the outbreak of the pandemic, the Bank of Albania took measures in order loan re-payments be extended in a second moment, for not jeopardising the households' credit worthiness. The analysis of survey data show that as a result of measures taken by the Bank of Albania, 15-18% of borrowers of benefited, to whom the increase in debt burden would trigger a problem for the loan repayment, and in turn would be materialised in an increase of non-performing loans.

In terms of scenarios created by COVID-19, we have calculated the number of households to fall into the category of poor households[10], with disposable income below 60% of the total household median. Results show that due to the full shutdown of economy, the number of poor households would increase by 23,381 up to 27,469, pushing the number of poor households up at 29-30% of total households.

Chart 16 Change in the number of households broken-down by the level household income



Source: Albanian Households Wealth Survey (AHWS).

IV. FINAL REMARKS

Data from the Albanian Households Wealth Survey show that income from labour and remittances are the main sources to household income, accounting for 60% and 80%, respectively of their total income. Thus, a shock on both sources will affect the expenditure level and financial status of Albanian households, by triggering negative implication on economic and financial indicators of households and entire economy.

Survey data show that mortgage loans, consumer loans and overdrafts have the main share in credit portfolio. Groups of households with income below the 60th percentile of income are more exposed to uncollateralized loans. In addition, households with income over the 60th percentile are more exposed to consumer loans. Debt to service ratio is assessed 32%, on average, but

[10] *According to the European Union members definition if a family is poor or not.*

15%-18% of households have a ratio over 43%, which is considered as the critical level for the increased probability on failing to repay the loan. 26% of Albanian households are considered as poor ones, with an income level lower than 60% of household total income median or less that ALL 36.000 per month.

Inequality in Albania is high, where income level of the wealthiest households (the 95th percentile) is 3.4 times higher income than middle-income households. On the other hand, middle-income households (50th percentile) have 4 times higher income than households with income in the 5th percentile of income. Scenarios from the temporary and first effects triggered by the full economic shutdown in March and April 2020, due to COVID-19, show a decline in the income of both employed and self-employed persons by 24% and 207%, respectively, in 2020. The first effect is expected to drive to a fall in total income of households by 13%-16% and in the aggregate consumption of households by 9-11%, but different across various groups of households.

The reduction of income level would drive to an increase of loan burden mainly to households that have the reference person unemployed, and to households with income below the 20th percentile, where the debt to service ratio reaches at 55% and 59%, by posing threat the sustainability of 18-22% of households. The cut of policy rate by the Bank of Albania [11] and the extension of loan payment have backed the temporary reduction of risk on the failure of households to pay the liabilities and not jeopardising the financial resilience of households, without genuinely damaging the financial system stability.

Another outcome from the loss or reduction of income is the increase in the number of poor households by around 23 to 27 thousand, turning them to account for almost 1/3 of total households in Albania. If the economy will not recover at a swift pace, then the increased number of poor households will have a medium to long-term impact on both the decline of middle-income households and the upsurge of the debt burden, thus driving to a worsening of financial situation of households.

[11] *A detailed summary of all measures undertaken by the Bank of Albania for the prevention of COVID-19 spread and response to the related situation is found at: https://www.bankofalbania.org/Shtypi/Pergjigjja_e_Bankes_se_Shqiperise_ndaj_COVID-19/*

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EVIDENCE ON FINANCIAL LITERACY AND FINANCIAL INCLUSION IN ALBANIA

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ABSTRACT

This article presents evidence on the financial literacy and financial inclusion in Albania based on "Measuring the Financial Literacy of Adults Survey" data of Bank of Albania during 2019. The data show that the level of financial literacy of Albanians is low compared with the average of individuals in the world. Individuals in Albania own only 53% (11.2 out of 21) of the total financial knowledge, behaviors and attitudes, which is reflected in a low level of financial inclusion. Only 54% of Albanians are aware of at least five financial products, compared to 83% of individuals globally. Also, the use of payment products is almost 2.5 times lower than the global level. The data display a low score of financial well-being of individuals in Albania, which reflect their insecurity about their finances and planning for the future.

I. INTRODUCTION

The last decade has been accompanied by an evolution and digitalization of the financial system and environment as a whole, giving individuals and businesses more opportunities to access and use financial products and services, as well as to better manage their finances. On the other hand, these developments have been accompanied by new challenges and risks for providers, users and supervisors of the financial system. The OECD in 2020 estimates that demographic and financial developments, socio-economic factors, population aging, the recent global financial crisis and above all the pandemic crisis caused by Covid-19 have put the social welfare of all society everywhere in the world at risk. Moreover these developments have placed the individual in the face of new challenges and risks by requiring them to have considerable financial knowledge and skills, to make the right decisions and to make the best possible management of their personal finances with minimal risk. Thus any initiative or policy aimed at improving and strengthening financial knowledge, within a consolidated consumer protection framework will bring sustainable growth and financial well-being to individuals and the population as a whole (OECD, 2020)

Financial literacy, consumer protection and financial inclusion are widely acknowledged to be the three key elements to having a strong financial

[1] *The opinions and views presented in this paper are those of the author and do not represent those of Bank of Albania. The author would like to thank Ms. Egis Isaku and Mr. Kliti Ceca for making available the data obtained from the Measurement of Financial Literacy Survey in Albania during 2019 conducted by the Bank of Albania in cooperation with INSTAT.*

strength of individuals and the sustainability of the financial system as a whole, as defined by G20 leaders (OECD, 2016).

This paper aims to assess the current situation of the level of financial literacy in Albania, based on data obtained from the third wave of the survey on measuring financial literacy, conducted by the Bank of Albania in 2019, based on the OECD / INFE methodology (2018).

Data on the level of financial literacy show that this level for Albanians is low compared to the average of individuals in the world. Individuals in Albania possess only 53% (11.2 out of 21) of the total knowledge, behavior and financial attitudes, which is reflected in a low level of financial inclusion, both in terms of knowledge and use of financial products and services.

Only 54% of individuals in Albania know at least five financial products, compared to 83% of individuals globally. Also, individuals in Albania use more payment instrument, but the level of usage is almost 2.5 times lower than the global level. On the other hand, the financial well-being of individuals, defined as the final objective of financial culture is assessed as low (7.7 out of 20), which indicates that individuals in Albania are generally insecure about their finances, preventing them from planning for the future.

It is evidenced that the individuals with the lowest level of financial culture are women, the elderly, individuals without formal education, housewives, the unemployed, the incapable of work, as well as persons with low income levels. These are the groups that should be targeted to achieve a higher level of financial literacy, to have a higher level of financial inclusion and financial well-being of the entire population.

The article is organized as follows. The following section presents a description of the situation of the financial literacy of adults in Albania, continuing with the results of financial inclusion and financial well-being. While the last part makes a summary of the findings.

II. FINANCIAL LITERACY OF ADULTS IN ALBANIA

The importance of financial literacy[2] and education[3] has been emphasized even more in recent decades taking into account recent financial, technological, demographic and economic developments. These developments have been accompanied by the provision of more financial products and services, but also more complex ones, which have increased financial inclusion of consumers, but have affected the way individuals think about savings, investments and

[2] *Financial literacy is a combination of financial knowledge, skills, attitudes and behaviors needed to make sound financial decisions in order to achieve financial well-being.*

[3] *Financial education is the process by which consumers or financial investors improve their understanding of financial products and their risks, through objective information, guidance and / or advice; develop the skills and confidence to become more aware of the risks and opportunities of finance, to make appropriate (informed) financial choices by heading to the right places, and to take action to improve their financial well-being*

pension funds. On the other hand, these developments have made individuals face new challenges and risks arising from the variety and complexity of the products offered, especially in the absence of financial literacy (OECD, 2005).

The financial education of individuals, and all approaches to improve it, are seen as a necessity, not only for the well-being of individuals, but of financial markets and the economy as a whole. This is because the most financially informed individuals contribute to a more efficient functioning of financial markets, and promote competition among financial intermediaries through the provision of innovative and quality financial products and services. Besides, the better financially educated individuals tend to save more than the rest, influencing the increase of savings, thus the growth of investments and the economy as a whole. Furthermore, financial education increases and strengthens consumer protection, as by better knowing their financial products and services, as well as the risks associated with them, these individuals are less subject to fraud and abuse (Greenspan, 2003b).

In developing countries, the increase of financial literacy through the delivery of information and training to consumers on financial agents and the products they supply affect the further development of the financial market, through increased economic activity and poverty reduction. Also, the better financially educated individuals are less exposed to financial risks, as they are more familiar with the way the market works and the conditions of its operation. This causes the growth of financial culture to affect not only the recognition of financial products and services, but also the improvement and planning of investments and savings in the long-term, 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.

In the framework of assessing the knowledge of financial literacy in Albania and identifying groups with a low level of financial culture, Bank of Albania, in cooperation with the Bank of Italy and the Bank of France, conducted for the first time in 2011 the survey "Measuring the financial culture of adults in Albania ", based on the approach proposed by the OECD, which was followed by the survey in 2015 and 2019.

The assessment of financial literacy in this paper is based on the latest survey data obtained from Bank of Albania in 2019. Based on the methodology presented by OECD/INFE (2018), financial literacy is an index that takes values from 1 at 21 and is calculated as the sum of the following three components:

- Financial knowledge index (takes values from 0 to 7);
- Financial behavior index (takes values from 0 to 9);
- Financial attitudes index (takes values from 1 to 5).

The data for 2019 show that the financial literacy index for Albania takes the value 11.2 (out 21, the maximum level), which indicates a low level of

financial literacy in the country. This score is 1.5 and 1.8 points lower than the average (12.7) of countries that have participated in the OECD/INFE 2018 financial literacy survey, as well as the average of OECD countries (13.0). Furthermore, the data show that Albanians possess only 53% of financial knowledge, behaviors and attitudes, while globally individuals possess an average 61% (12.7 out of 21) of them. It is noticed that there are differences in financial literacy between countries, where most of them have a score between 12 and 14, which indicates that low level of financial literacy is a global issue and challenge (OECD, 2020).

Table 1 shows the values of each component of financial literacy index, where it is recognized that individuals in Albania are characterized by a lower level of financial knowledge and behavior, but a better financial attitude.

Table 1 Financial literacy index and its components for Albania and other countries

	Financial knowledge	Financial behavior	Financial attitude	Financial literacy index
Albania	3.7	4.3	3.2	11.2
North Macedonia	3.9	5.1	2.8	11.7
Montenegro	4.1	4.7	2.6	11.5
Italy	3.9	4.2	3.0	11.1
Average, all countries	4.4	5.3	3.0	12.7
Average, OECD-11	4.6	5.3	3.1	13.0

Source: OECD, (2020), data obtained from the Survey on financial literacy in Albania (2019)

In the following we will present the values obtained for each component of the financial culture index in Albania, as well as their variation different socio-demographic groups.

II.1 FINANCIAL KNOWLEDGE

Financial knowledge is an important element of financial culture for individuals to facilitate the distinction and comparison between financial products and services, to make appropriate financial decisions. An individual possesses basic financial knowledge if he is able to apply numerical skills in the financial context, to independently manage his finances, as well as to be alert to news and events that have an impact on his financial well-being. Having the right financial knowledge results in a higher participation of individuals in the capital markets, in a better planning of future income, timely repayment of loans, as a result of a lower credit risk.

Based on the methodology presented by the OECD (2018), the financial knowledge index is calculated based on the scoring evaluation of financial knowledge questions, where one point is placed for each correct answer and the maximum score that this index takes is 7. In Albania, the financial literacy index for 2019 is estimated at 3.7 which is lower than the average of OECD countries (4.6) and all countries that participated in the survey (4.4). In general, the assessment for individuals in Albania is comparable to that of our neighboring countries, such as Montenegro and Northern Macedonia, which participated in the survey.

Table 2 shows the percentage of individuals who gave the correct answer for each component on financial knowledge, for Albania and for a group of countries. The data show that Albanians lack financial knowledge about the time value of money, as well as an understanding of the compound interest rate, with only 26% and 11% of individuals answering these questions correctly. There also seems to be difficulty in understanding the simple interest rate, where more than half of individuals give incorrect answers. Individuals in Albania have more knowledge about the interest rate on loans, risk, returns, and diversification, which are somewhat close to the average of countries that participated in the OECD / INFE 2018 survey. The data show that only 70% of individuals in Albania understand the definition of inflation, but this percentage is 10 percentage points lower than the average of OECD countries, but comparable to the results in Montenegro and Italy.

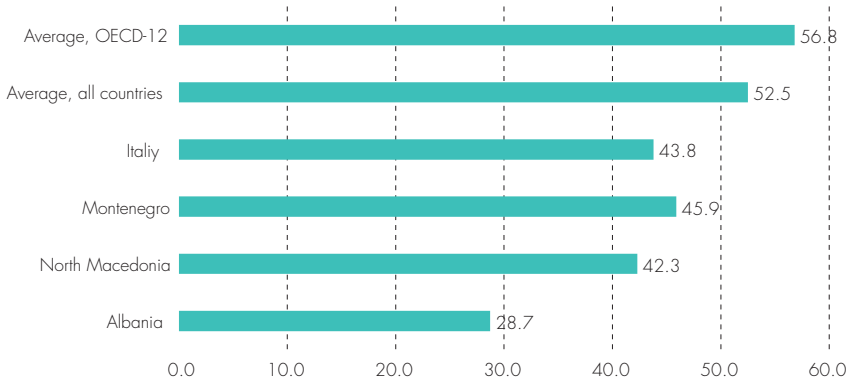
Table 2 Percentage of individuals who gave a correct answer to each question

Questions on financial knowledge	Albania	North Macedonia	Montenegro	Italy	Average, all countries	Average, OECD-12
1. Time value of money, impact on inflation	25.9%	60.8%	61.4%	50.5%	65.5%	59.9%
2. Loan interest rate	83.7%	72.9%	87.4%	78.2%	87.4%	84.4%
3. Simple interest and principal calculations	46.4%	44.8%	65.8%	59.4%	57.2%	57.1%
4. Compound interest	10.5%	12.3%	13.9%	23.1%	28.8%	26.3%
5. Understanding risk and return	74.3%	68.6%	75.9%	64.7%	79.0%	77.1%
6. Understanding the definition of inflation	69.3%	78.2%	70.4%	65.1%	80.9%	78.0%
7. Understanding risk diversification	61.1%	55.1%	35.9%	51.3%	63.3%	58.9%

Source: OECD (2020), Survey on financial literacy in Albania (2019), author's calculations

The minimum level for financial literacy is determined when the financial literacy index takes a value of 5 or more, which means at least 5 correct answers. Values for 2019 show that only 29% of individuals (Chart 1) in Albania possess minimal financial knowledge, lower compared to the level of countries in the region, as well as other countries participating in the survey.

Chart 1 Percentage of respondents with minimum financial knowledge



Source: OECD (2020), Survey on financial literacy in Albania (2019), author's calculations.

Regarding the variations between the groups with different socio-demographic characteristics (table 3) it is noticed that the groups that have the lowest percentage of individuals with minimal financial knowledge are: women, individuals in the age group 60-79 years, individuals settled in urban areas, individuals without education or with primary education, housewives, unemployed, incapacitated individuals, as well as individuals with low income level. These groups have significant lack of knowledge on the basic concepts of interest rate, inflation, return, risk, etc.

Table 3 Percentage of individuals with minimum financial knowledge

	Percentage of individuals providing 5 or more correct answers	
Total		28.7%
Gender	Women	23.4%
	Men	34.2%
Age	18-29 years	34.9%
	30-59 years	31.9%
	60-79 years	17.4%
Domicile	Urban	28.2%
	Rural	29.2%
Education	Tertiary level	46.5%
	Secondary level	31.7%
	Basic level	16.6%
	No education	0.0%
Employment status	Self-employed	38.1%
	Employed	38.3%
	Student	54.3%
	Houseperson, economically inactive	16.9%
	Unemployed	20.6%
	Incapable for work	16.7%
Income level	Low level	21.7%
	Medium level	34.1%
	High level	41.5%

Source: OECD (2020), Survey on financial literacy in Albania (2019), author's calculations.

II.2 FINANCIAL BEHAVIOR

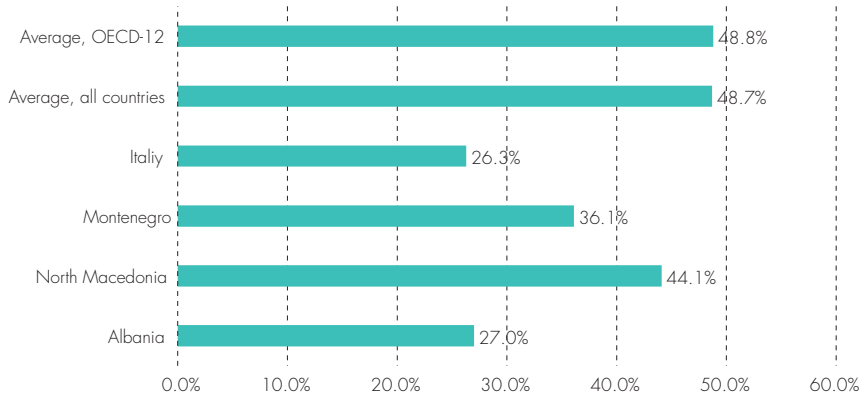
The second component of the financial literacy index is financial behavior, which includes individuals' approach to savings and long-term planning, informed purchases, and keeping cash flows in mind. Due to the importance of this component for the financial situation and well-being of individuals, it contributes more to the calculation of the financial literacy index according to the OECD / INFE (2016, 2020). Where individuals' financial behavior is assessed in a series of questions:

- Savings and long-term planning, where the aim is to obtain information about the behavior of individuals towards savings, lending, spending and setting long-term objectives.
- The way of purchasing financial products and services, randomly or in an informed way, by consulting a financial agent, etc.
- Taking to account cash flows, by considering the behavior of individuals on their finances, whether they pay their bills on time, and whether they avoid arrears etc.

The financial behavior index takes values from 0 to 9, where a point is placed for each correct attitude of individuals on savings, planning, expenses, debts, etc. The index of financial behavior for Albanians for 2019 is 4.3 to 9 (maximum value of the index) and that they own only 47% of the appropriate financial behavior (table 1). It turns out that Albanians have less appropriate financial behavior, compared to the global average of individuals, as well as that of other countries.

The data show that in Albania only 27% of individuals have the minimum appropriate financial behavior (financial behavior index value 6 or more). This percentage is lower compared to the average of countries in the world and countries in the region, such as Northern Macedonia and Montenegro, but comparable to Italy (graph 2)

Chart 2 Percentage of individuals with minimum financial behavior (financial behavior index value 6 or more)



Source: OECD (2020), Survey on financial literacy in Albania (2019), author's calculations.

Despite the socio-demographic characteristics of individuals, the data show that individuals in Albania are characterized by a pronounced lack of minimum financial behaviors ranging from 76% to young people to 100%, for persons without formal education (table 4).

Table 4 Percentages of individuals with minimum financial behavior index (6 or more)

Percentages of individuals with 6 or more correct answers		
Total		27%
Gender	Women	23%
	Men	31%
Age	18-29 years	24%
	30-59 years	32%
	60-79 years	18%
Domicile	Urban	32%
	Rural	21%
Education	Tertiary level	48%
	Secondary level	31%
	Basic level	11%
	No education	0%
Employment status	Self-employed	41%
	Employed	47%
	Student	18%
	Houseperson, economically inactive	17%
	Unemployed	5%
	Incapable for work	14%
Income level	Low level	14%
	Medium level	35%
	High level	56%

Source: Survey on financial literacy in Albania (2019), author's calculations

II.3 FINANCIAL ATTITUDE

The OECD definition of financial literacy recognizes that regardless of financial knowledge and behavior, it is the financial attitudes of individuals that influence a decision. Financial attitudes are about understanding individuals' preferences between living for the present and spending money, or versus the attitude to caring for the future. The financial attitudes of individuals are assessed based on whether or not individuals agree to the following attitudes:

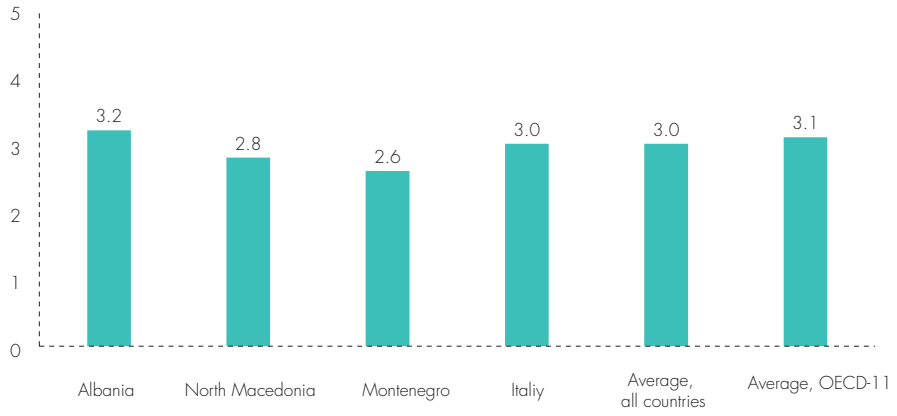
- "I tend to live in the moment, without worrying too much about tomorrow",
- "I prefer to spend money than save it for the future"
- "Money is made to be spent

The financial attitude index is determined as the average of the points obtained for the above three positions. The values obtained by this index range from 1 to 5, where the value 1 indicates a low level of financial attitude, while 5 indicates a higher level of financial attitudes

In Albania, the financial attitudes score is 3.2 (out of 5) and shows that individuals own 64% of the appropriate financial attitudes. This score is slightly higher than the average of all countries that participated in the survey and average of OECD countries (graph 3). The data show that 69% of individuals in Albania possess the minimum financial attitudes (financial attitudes score greater than 3) exceeding the average of all countries (graph 4).

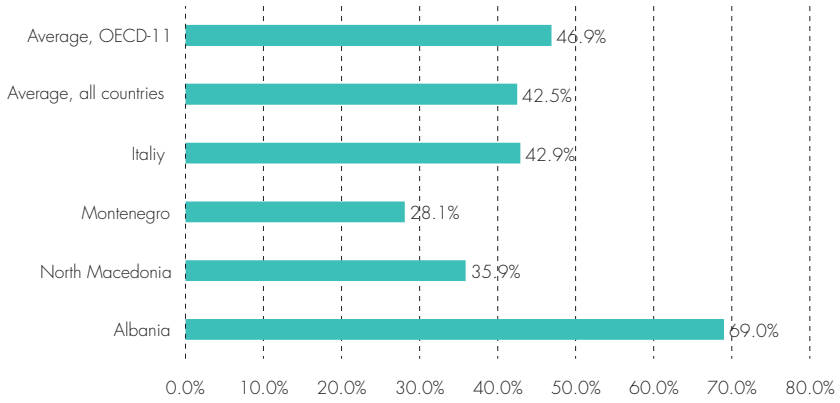
To see the differences between the different financial attitudes, graph 5 shows the percentage of individuals in relation to each of them. The data show that 58% of individuals have the right financial attitude by being against "that money is to be spent rather than saved for the future", while 19% of individuals agree with it and 21% have a neutral attitude. Only 25% of individuals have the right attitude, saying against "money is made to be spent", while 50% have agreed with this attitude. On the other hand, 50% of individuals have a proper financial attitude, stating that they are against "I am inclined to live in the moment", where 20% agree about this position and 30% of individuals have a neutral position (graph 5).

Chart 3 Financial attitudes score



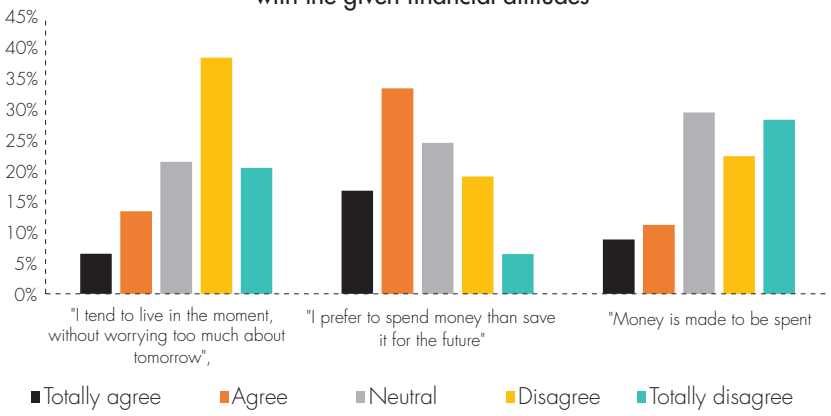
Source: OECD, (2020) Survey on financial literacy in Albania (2019), author's calculations.

Chart 4 Percentages of individuals with financial attitudes score greater than 3



Source: OECD, (2020) Survey on financial literacy in Albania (2019), author's calculations.

Chart 5 Percentages of individuals by agreement or disagreement with the given financial attitudes



Source: Survey on financial literacy in Albania (2019), author's calculations.

III. FINANCIAL INCLUSION IN ALBANIA

As mentioned above, in addition to financial literacy and strengthening consumer protection, financial inclusion is an important component that shows the awareness and use of financial products, as well as their impact on financial stability.

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 promoting financial well-being as well as economic and social inclusion (Atkinson and Messy, 2013).

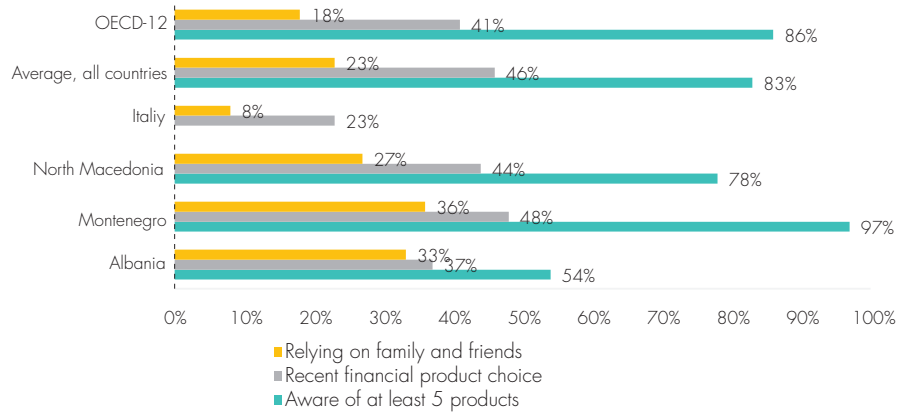
Financial inclusion is a two-way process, it involves the provision of appropriate financial products on the supply side, as well as awareness and recognition of these products by the demand side (OECD, 2020). Measurements proposed by the OECD / INFE (2018) in relation to financial inclusion analyze this phenomenon mainly on the demand side, focused on the recognition and use of financial products by consumers.

The data presented in Chart 6 show that in Albania, both the recognition and use of financial products is below the average of the countries participating in the survey and the OECD countries. In Albania only 54% of individuals know financial products, below the global average (83%) and OECD countries (86%), but even lower than the levels presented for the region.

Regarding the use of financial products, it is noted that only 46% of individuals in the world and 41% of individuals in OECD countries have chosen to use a financial product in the last year, an indicator that appears quite heterogeneous between countries. In Albania this indicator is 37%, below the global average and OECD countries, but also below the percentage of individuals identified for neighboring countries.

The third indicator of financial inclusion concerns the support of individuals to family and friends, both to borrow and to save, versus the provision of these products by the financial sector. Despite the many advantages that support for family and friends offers, this indicator also serves to measure the level of informality in the financial sector (OECD, 2016, 2020). Data for all countries (and OECD countries) show that 23% (and 18%) of individuals rely on family and friends for financial services. In Albania, 33% of individuals rely on households, comparable to the figure for Montenegro (36%), while in Northern Macedonia this indicator is 6 pp lower (27%). Italy (8%), represents one of the countries with the lowest level of this indicator, while the highest values of the index are reported for Georgia (46%), Slovenia (40%) and Moldova (40%), (OECD, 2020).

Chart 6 Indicators of financial inclusion

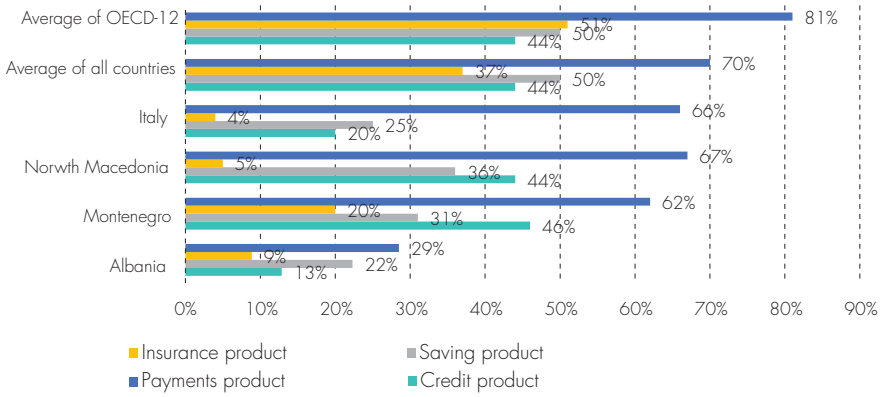


Source: OECD (2020), Financial literacy survey, 2020, author calculations.
Note: Missing data on Italy, regarding the awareness recognition of at least five financial products.

Graph 7 presents data on product holding based on OECD indicators[4], where 70% of individuals in the world and 81% of individuals in OECD countries hold payment products. While holding other financial products is characterized by a high heterogeneity between countries. At global level 50% of individuals hold savings products, 44% hold credit products and 37% hold insurance products. In Albania the distribution of holding financial products is almost 2 to 4 times lower compared to global level. Thus, 29% of Albanians hold payments products, 22% hold savings products, and 13% hold credit products and 9% hold insurance products.

[4] *saving, investment or retirement products, which are not mandatory (such as state pension, obligatory health insurance, or others); payment products (or transaction accounts), such as a current account or mobile money (excluding credit cards, which are counted as a credit product and other types of accounts that may offer payment facilities such as savings accounts), debit cards or pre-paid payment cards; • insurance products (vehicle, health, personal liability or home contents); and credit product (any formal bank loan, or mortgage*

Chart 7 Holding of financial product



Source: OECD (2020), Financial literacy survey, 2020, author calculations.

Based on socio-demographic characteristics of individuals, the data show that less aware of at least 5 financial products (below the national average) and who have chosen a financial product during the last year are women, oldest individuals, individuals without education, housewives, unemployed, unable to work individuals, as well as low-income individuals. Relying on family and friends to borrow and save are: individuals in the age group 30-59, individuals living in rural areas, individuals without formal education, the self-employed, housewives, the unemployed and individuals with a low level of income.

Table 5 Indicators of financial inclusion based on socio-demographic characteristics of individuals

		aware of at least 5 products	recent financial product choice	relying on family and friends
Total		54%	37%	33%
Gender	Women	50%	34%	32%
	Men	59%	40%	34%
Age	18-29 years	67%	36%	25%
	30-59 years	58%	45%	39%
	60-79 years	36%	23%	30%
Domicile	Urban	57%	42%	28%
	Rural	52%	32%	39%
Education	Tertiary level	78%	62%	22%
	Secondary level	64%	41%	30%
	Basic level	33%	21%	42%
	No education	21%	0%	64%
Employment status	Self-employed	65%	48%	41%
	Employed	77%	65%	27%
	Student	82%	37%	22%
	House person, economically inactive	34%	17%	41%
	Unemployed	44%	21%	41%
	Incapable for work	32%	19%	30%
Income level	Low level	41%	24%	39%
	Medium level	64%	44%	26%
	High level	80%	71%	30%

Source: Financial literacy survey, 2020, author calculations

Based on socio-demographic characteristics of individuals, the data show that less financial products hold individuals with low level of formal education, incapacitated individuals, housewives, and low-income individuals.
In more detailed: men, the elderly, individuals in rural areas, individuals without formal education, housewives, the unemployed, students and low-income individuals held less payment products. Fewer savings and credit products have: women, youth, elderly people, and individuals in rural areas, individuals with low level of education, students, housewives, the unemployed, the disabled individuals and individuals with low level income. While insurance products are less held by women, the elderly, individuals located in urban areas, individuals with a low level of education, students, housewives, the unemployed, disabled individuals and individuals with low level of income.

Table 6 Financial product holding based on socio-demographic characteristics of individuals

		Payment product	Saving/ investment/ pension/product	Credit product	Insurance product
Total		28.5%	22.3%	12.8%	8.9%
Gender	Women	29.5%	18.6%	10.1%	5.3%
	Men	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%
Domicile	Urban	39.4%	26.5%	14.4%	8.4%
	Rural	17.4%	18.0%	11.3%	9.3%
Education	Tertiary level	64.0%	39.8%	25.5%	7.9%
	Secondary level	25.6%	25.0%	11.2%	13.5%
	Basic level	11.8%	10.5%	7.5%	5.4%
	No education	0.0%	0.0%	0.0%	0.0%
Employment status	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%
	House person, economically inactive	10.2%	7.9%	5.1%	6.8%
	Unemployed	15.8%	6.9%	9.2%	0.0%
	Incapable for work	5.6%	15.6%	4.6%	1.3%
Income level	Low level	15.2%	10.7%	8.1%	4.8%
	Medium level	33.4%	29.7%	10.7%	11.4%
	High level	63.3%	49.1%	34.4%	18.5%

Source: Financial literacy survey, 2020, author calculations

IV. FINANCIAL WELL-BEING OF INDIVIDUALS

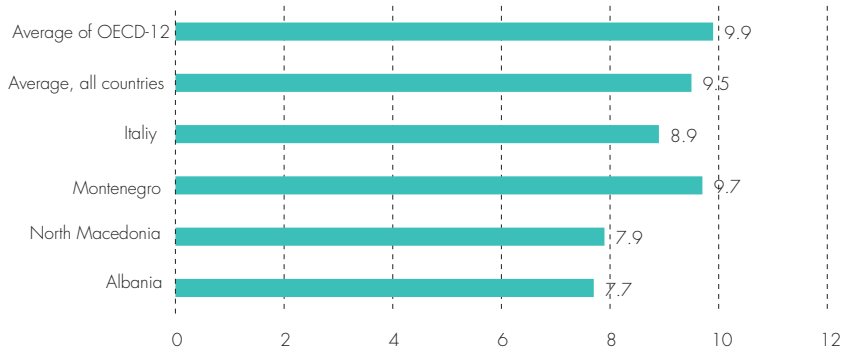
As mentioned at the beginning of this paper, the purpose of financial literacy, in addition to familiarity, awareness raising and making the right financial decisions, is to increase the financial well-being of individuals. The financial well-being, originally proposed by the USA's Consumer Financial Protection Bureau (CFPB), means "the ability of an individual who can fully meet current and ongoing obligations, to feel safe in his future finances and be able to make choices that lead him to enjoy life". The OECD has proposed a broader definition of financial well-being that includes both elements of financial knowledge and skills, as well as of consumer self-control (OECD, 2020). Thus, the financial well-being index is seen as complementary to financial literacy index and is calculated through a score evaluation of the following five attitudes:

- Because of my financial situation, I feel like I will never have the things I want in life.
- Financially I am just surviving.
- I am afraid my money will not last long.
- At the end of the month, I don't have money to spare.
- My finances limit my life.

The financial well-being index takes values from 0 to 20, where the higher the value of this index the better the financial well-being of individuals. Since the well-being of individuals is based on a self-assessment of themselves, there is no minimum targeted level of this indicator (OECD, 2020). Mostly this index fluctuates around the average level, where values far from average are interpreted as unusual (OECD, 2020).

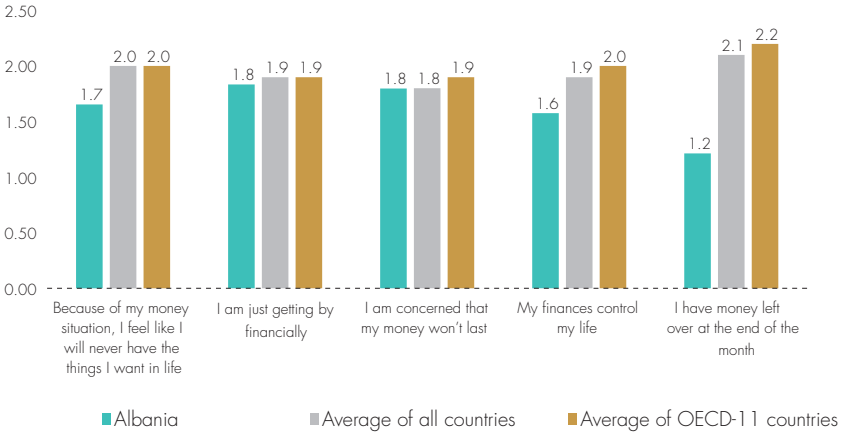
The financial welfare index in Albania for 2019 has reached the value of 7.7 (or 38% of the maximum). This level is below the average of the countries that participated in the survey or of the OECD countries, but also with the level measured for neighboring countries (Chart 8). Also, the rating for Albania, which is below level 10 (middle value of the index) indicates an uncertainty of individuals over their finances, to cope with financial shocks, preventing them from making plans for the future. This is presented in more detail in Chart 9. Albanians compared to other countries value less the attitudes on: (i) at the end of the month I have more money, (ii) finances limit my life, (iii) and because of financial condition i feel like i will never have the things i want, making them have a low level of financial well-being index.

Chart 8 Financial well-being index



Source: OECD (2020), Financial literacy survey, 2020, author calculations.

Chart 9 Components of financial well-being index



Source: OECD (2020), Financial literacy survey, 2020, author calculations.

The data in Table 7 show the range of financial well-being index among different groups of individuals in Albania. The data show that the individuals with the lowest level of the financial well-being index are the individuals without or with a low level of education, the unemployed, the incapable individuals, as well as the individuals with the lowest level of income who claim the most mostly that: (i) the difficult financial situation prevents them from having the things they want in life; (ii) are uncertain about the income they have; (ii) are financially surviving; (iii) finances mostly limit my life, (iv) and at the end of the month I no longer have too much money.

Table 7 Financial wellbeing index based on socio-demographic characteristics of individuals

Total		7.67
Gender	Women	7.76
	Men	7.58
Age	18-29 years	8.24
	30-59 years	7.69
	60-79 years	7.13
Domicile	Urban	8.00
	Rural	7.34
Education	Tertiary level	9.87
	Secondary level	8.25
	Basic level	5.99
	No education	3.40
Employment status	Self-employed	8.58
	Employed	9.68
	Student	8.65
	Houseperson, economically inactive	6.54
	Unemployed	5.05
	Incapable for work	6.75
Income level	Low level	5.92
	Medium level	8.91
	High level	11.49

Source: Financial literacy survey, 2020, author calculations

V. FINAL REMARKS

The survey data of 2019 show that financial literacy score of individuals in Albania is 11.2 (out of 21), below the global average of countries assessed by the OECD (2020). It is estimated that Albanians have only 53% of financial knowledge, behaviors and attitudes, detailed as follows.

- Albanians possess only half of financial knowledge, with a value of financial knowledge index at 3.7 (out of 7), lower than the global level of financial knowledge (4.4). The data show that 29% of Albanians possess the minimum of financial knowledge. They have less knowledge about the compound interest rate and understanding of the time value of money. Only 11% and 26% of Albanians answered correctly, which is 2 to 3 times lower than the percentage of individuals in countries that have participated in OECD survey.
- The level of financial behavior of individuals in Albania is estimated at 4.3 (out of 9), which indicates that they have 47% of appropriate financial behavior. Also only ¼ of individuals possess the minimum of financial behaviors versus half of individuals globally.
- Financial attitude score for Albanians is 3.2 (out of 5), which shows that they have 64% of the appropriate financial attitudes and more than half of Albanians own the minimum of financial attitudes.

Regarding financial inclusion, survey data show that Albanians are characterized by a higher level of awareness of financial products, but a lower level of their use. Compared with other countries, there are still many differences on financial inclusion indicators and product holding. In more detailed the data show that:

- Only 54% of individuals in Albania know at least five financial products, compared to 83% of individuals globally. Also less than 40% of Albanians have used a financial product during the last year, while globally this indicator is less than 50%. In addition one third (or 33%) of individuals in Albania turn to family and close friends to get money, which indicates their avoidance of the formal financial system, while at global level this indicator is almost 10 percentage points lower.
- Payment products are the most held product by individuals in Albania, confirmed by 29% of them. It is followed by savings products (22% of households), credit products (13% of households) and security products (9% of households). While at global level held of financial product is 2-3 times higher which indicates a low level of financial inclusion in Albania.

The financial well-being index, considered as the final objective of financial culture is estimated at *7.7* out of 20, for individuals in Albania and is lower compared to global value of this index. This result shows that Albanians feel insecure about their future, have less confidence to absorb financial shocks and are unable to plan for the future.

Using the advantage of micro data we have identified that women, the youth, the elderly, individuals with low levels of education, the unemployed, housewives, low-income individuals and individuals in rural areas are characterized by a lower level of financial literacy in Albania. These groups should be at the center of financial education policies and programs for an improvement of their level of financial literacy, which will result in a higher financial inclusion and financial well-being of individuals in order to have a sustainable macroeconomic growth in the long run.

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THE CHANGING DYNAMICS OF ALBANIAN INFLATION: A QUANTILE REGRESSION APPROACH

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1. INTRODUCTION

Discussion of inflation risks - perceived as the conditional distribution of inflation - especially whether risks to future inflation are balanced or tilted to the upside or downside, often take centre stage in central bank policy debate. It is necessary for policymakers to consider not only the most likely future path of inflation, but also the distribution of outcomes around that path, based on the given paths of its explanatory indicators, in order to be able to propose the appropriate policies accordingly. The central bank's assessment of inflation risks, and how this is communicated to the public, may potentially influence private agents 'expectations and hence their decisions, thus contributing to actual outcomes.

A significant amount of literature has investigated the variance of inflation or symmetric uncertainty, while only a few recent empirical studies have investigated the shape of the entire inflation distribution, including tail risks (e.g. Andrade et al (2015); Lopez-Salido and Loria (2019)). Particularly, these papers have focused on advanced economies where inflation has generally been less volatile and tail risks – especially those on the upside – less prominent than in emerging market economies.

In this light, this article aims at investigating inflation risks (the conditional forecast distribution) in Albania. Contrasting the tails and the median of inflation distribution gives a more comprehensive picture of the effects of real and financial shocks on inflation. Since inflation has a changing behaviour over time, illustrated in Figure 1, estimating linear parameters that assume symmetry may be inappropriate; under such conditions we suggest the use of quantile regression. Similar methodology is used by Manzan & Zerom (2013), Tillmann & Wolters (2014), Gaglianone & Lima (2014).

The conditional distribution of macroeconomic indicators for the Albanian economy has been analysed by Tanku & Ceca (2013) and Tanku & Ceca (2018). Our contribution to the literature is twofold, first we introduce the use of quantile regression approach for estimating the conditional distribution; and second we enrich the conditional distribution by the time dimension, as a feature of QR. Our results reveal significant time variation in the shape of the distribution of inflation. On average, the inflation distribution results skewed on the positive side.

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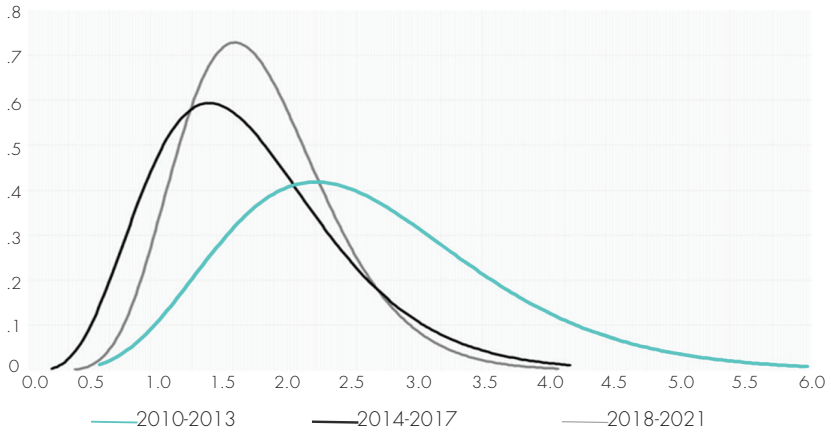
The article continues as follows. Section 2 describes the quantile regression specification for the Albanian economy, the selected economic indicators and the estimation procedure. Section 3 discusses the results obtained by the empirical analysis and their interpretation, while Section 4 presents some final remarks.

Chart 1 Inflation distribution over three sub-periods: 2010-2013, 2014-2017 and 2018-2021.



Source: Authors' calculations.

2. METHODOLOGY AND DATA DESCRIPTION

The starting point of the analysis is an open-economy Phillips curve that explains the future inflation distribution to current inflation, unemployment, exchange rate and foreign prices and a constant (the explanatory variables, collectively denoted as χ_t) expressed as follows:

$$(1) \quad \pi_{t+h} = \alpha + \chi_t' \beta + [(\delta + \chi_t' \gamma) U_t]$$

where π_{t+h} is the *h*-month ahead year-on-year CPI inflation. The vector $\chi_t = (\pi_t, un_t, \Delta er_t, \pi_t^{EA})$ in (1) comprises the explanatory variables in an open-economy *Phillips* curve: un_t is the unemployment gap, π_t is current annual inflation rate, Δer_t is the annual change in the nominal exchange rate ALL/EUR and π_t^{EA} represents inflation in the Euro Area. The term in square bracket represent the stochastic error.

The conditional quantiles for 3-month ahead inflation introduced by Koenker & Bassett (1978) and Koenker (2005) are computed as:

$$(2) \quad Q_\pi(\tau | X_t) = (\alpha + \delta_i q(\tau)) + \chi_t' \beta + \chi_t' \gamma q(\tau)$$

We estimate coefficients for five quantiles: 10, 25, 50, 75 and 90 percent quantiles. The confidence intervals are computed by bootstrapping with 500 replications.

Each predicted quantile in the equation above corresponds to a point in the cumulative distribution function (CDF) F(.) of the 3-month ahead inflation forecast for each period[2]. A sequence of probability density functions (PDFs) is

[2] *The QR model perform well for h=1, .., 6; we choose to illustrate for h=3-month ahead horizon, due to the fact that labour market data are published with quarterly frequency.*

then computed by mapping the estimated discrete quantiles at each point in time. These points are interpolated afterwards to obtain a smooth distribution which allows us to perform inflation risk analysis. Smoothing is also necessary because the projected quantile are often noisy, given the error accompanying the estimation. The projected quantiles are interpolated non-parametrically using Epanechnikov Kernel[3].

The methodology has several advantages over the conventional counterparts. In contrast to ordinary least squares (OLS) regression, which estimates the conditional mean of the dependent variable, quantile regression estimates the entire conditional distribution of the dependent variable, as a function of variables set with changing effects along the distribution. Basically, this estimation framework yields the entire distribution of future inflation for the "risk" factors. We thus examine important risk asymmetries and the average effects of the risk factors.

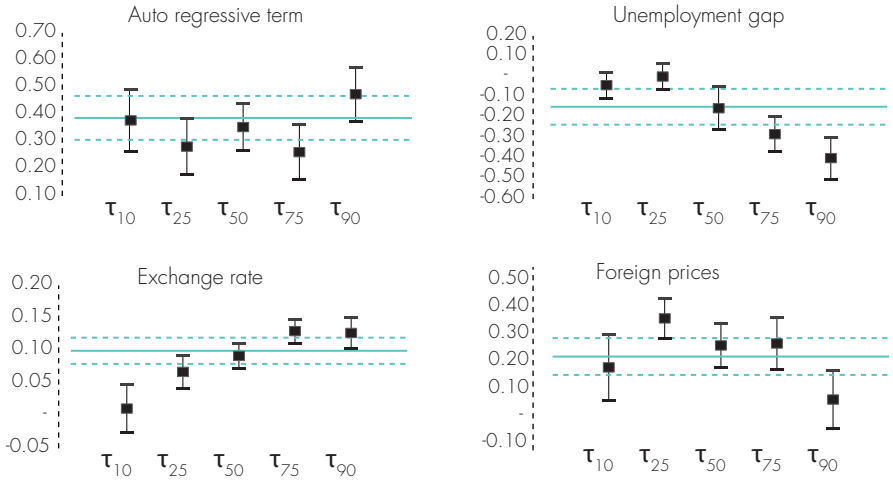
The information sources used to get these data are: Bank of Albania (BoA), the National Institute of Statistics (INSTAT) and Eurostat. The dataset includes monthly time series for the period 2010M1-2021M12. Inflation rate is the annual change of monthly price level measured by the Consumer Price Index (CPI) published by INSTAT. Nominal exchange rate ALL/EUR is the daily official rate of Bank of Albania. Monthly frequency is the simple average of the daily observations and year on year growth rate is applied to exchange rate series. Unemployment gap is calculated as the ratio of unemployment rate to the NAIRU, under the aim of capturing the so called 'speed effect'. Unemployment rate is taken from INSTAT and NAIRU is generated according to the methodology described in Çela and Skufi (2018). The linear interpolation is applied to unemployment rate and NAIRU to convert the data from quarterly to monthly frequency. Harmonized Consumer Price Index (HICP) in EA are obtained from Eurostat as an annual change of monthly data.

3 ESTIMATION RESULTS

This section presents the results of quantile regression (QR), for five quantiles τ = {10, 25, 50, 75, 90}. Figure 2 shows the estimated coefficients and 95% confidence interval bands (boxplots). Horizontal green lines indicate the least squares estimations (LS) for the same variable set. All the coefficients in the Phillips Curve have the expected signs along the quantiles. The unemployment gap results with a negative effect on inflation, while current inflation, exchange rate change and foreign prices result with a positive effect on the 3-month ahead inflation.

[3] *Epanechnikov Kernel CDF is given by* $P(X < k|\mu, r) = \frac{-\left(\frac{k-\mu}{r}\right)^3 + 3\left(\frac{k-\mu}{r}\right) + 2}{4}$, *where* $k \in (\mu - r; \mu + r)$. *The Epanechnikov "distribution" is simply a concave polynomial of second degree. As such the distribution entails some desirable properties. The Epanechnikov distribution is controlled by two parameters: μ and r: μ represents the mean, mode and median, which all coincide since the distribution is symmetrical; r represents the spread and corresponds to the distance between the mean and the smallest/largest possible value supported by the distribution, i.e. half the range.*

Chart 2 Estimated QR and LS coefficients



Source: Authors' calculations.
Note: LS coefficients in green and QR coefficients in black, shown with the 90% confidence interval bands.

The results demonstrate economical and statistical asymmetries between inflation and explanatory variables. In particular, unemployment gap and exchange rate affect more inflation in the right tail, while the foreign prices effects are higher at the 25th quantile. This insight would be lost if we would have focused solely on the central tendency. The exchange rate effect tends to increase in the upper quantiles, implying that a depreciation of the domestic currency tends to increase more inflationary pressures in times of high inflation. Inflation persistence is higher in the tails of the distribution. Similar results are found by Busetti et al. (2015) for conditional distribution of inflation in euro area.

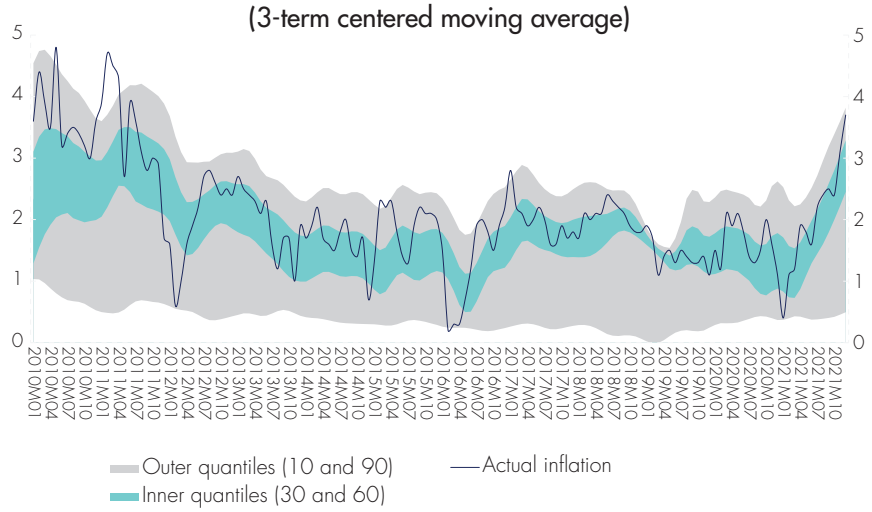
The asymmetry of the coefficients is tested further by the Wald slope equality test. The results on the coefficients equality for the median against those estimated at the upper and lower quartile, not surprisingly are statistically significant at 1% (p-value = 0.0091), concluding that coefficients differ across quantile values and that the conditional quantiles are not identical. These results are also supported by the distribution symmetry measure ($\xi = Q_{10} + Q_{90} - 2Q_{50}$) displayed in Figure 3. A value greater than zero indicates positive skewness, meaning that the right tail is longer than the left one. The conditional distribution of 3-month inflation generated by the quantile regression model tends to be negatively skewed during the first part of the sample period (2010-2014), turning into positive afterwards and remaining such till the end of the estimation period (2015-2021).

Chart 3 Skewness test results: the symmetry of inflation's conditional distribution (centered moving average of three terms).

Source: Authors' calculations.

The estimated coefficients and the corresponding fitted values of the QR model are used to generate the sequence of continuous probability density functions and estimates of upside risks to inflation. Figure 4 shows the realized values of inflation (black line) together with the estimated 30–60 and 10–90 quantile ranges for the fitted values of inflation. The results show significant time variation in the shape of inflation conditional distribution. Large swings of the explanatory variables are associated with inflation falling in the upper or in the lower distribution. As an example, the drop of inflation in 2016 is related to the currency appreciation[4] and labour market developments characterized by a higher unemployment gap.

Chart 4 Conditional distribution and realized inflation (3-term centered moving average)



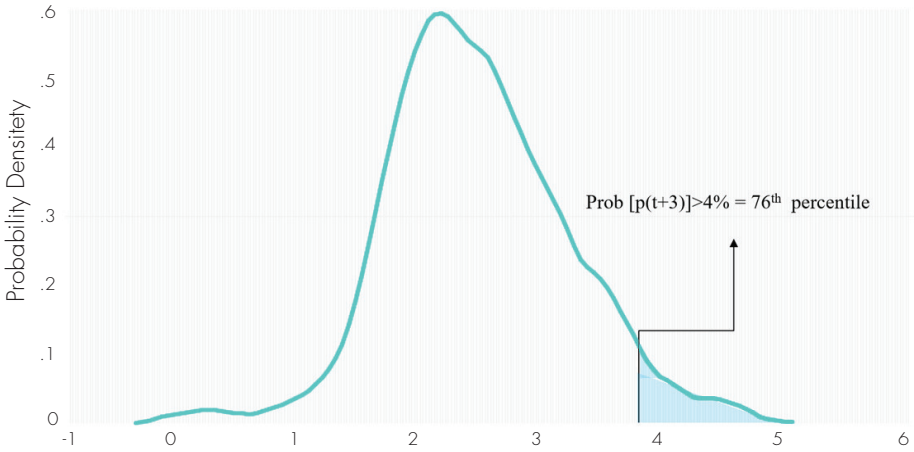
Source: Authors' calculations.

In a decade of relatively marginal upside risks, the conditional distribution of inflation tells that average 3-month ahead inflation above 4 percent has a

[4] *See Monetary Policy Report 2016 (BSH, 2016) for a detailed description of Lek appreciation during 2016.*

low probability. In other words the upside (tail) risk associated with "excessive inflation" is 7.4%. Figure 5 illustrates the link between inflation risks and the quantiles of the inflation distribution. Upside risks to inflation can be characterized by the probability mass to the right tail of the distribution. The blue shaded area indicates that a 4% (or higher) inflation rate corresponds to the 76th quantile of the inflation distribution.

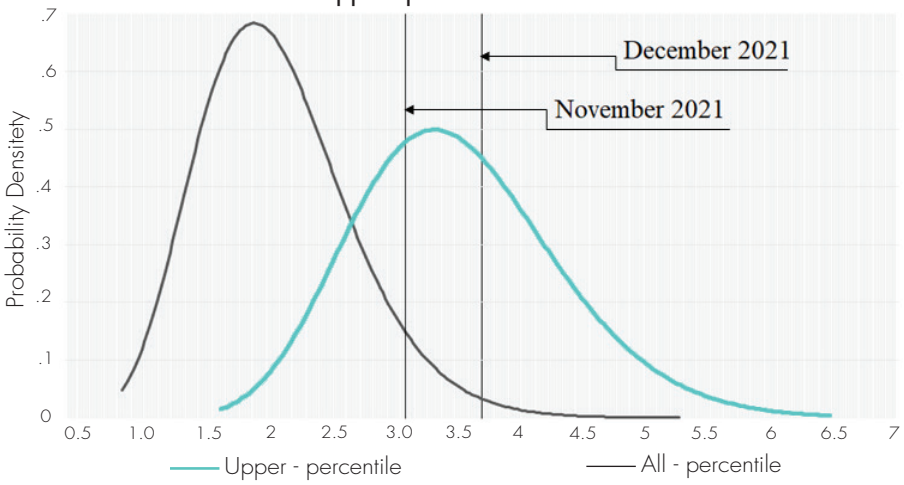
Chart 5 Probability density of average 3-month ahead inflation



Source: Authors' calculations.

Following the same logic, an inflation rate above 3% has a 40% probability to occur. Figure 6 illustrates the inflation average conditional distribution over the estimation sample. The average conditional distribution of full percentiles is represented by the grey line. While the average conditional distribution of upper percentiles related to inflation rate above the target of 3% is indicated by the green line. The results indicate that once inflation overshoots the target, it will probability fluctuates around an average of 3.5%, and there is a high probability to return to target. This bodes well with the realised value of 3.7% of headline inflation in December 2021, once the latter moved above target the month prior. The full conditional distribution would have suggested a headline inflation rate of 1.9%.

Chart 6 Probability density of estimated quantile-inflation and upper-quantile inflation



Source: Authors' calculations.

4. CONCLUDING REMARKS

Inflation in Albania dropped below the central bank's target of 3% in 2012 and has fluctuated below target until end-2021. In this article we investigate the evolution of inflation risks in Albania and its main drivers. We use quantile regressions to estimate the three-month-ahead density forecast of inflation, derived from a Phillips curve for a small open economy. This methodology provides a measure to quantify the uncertainty surrounding the main estimation. At the same time QRs analyse the relation among the variables in the different areas of the distribution producing estimations for the probability of events away from the conditional mean.

The in-sample results reveal significant time variation in the shape of the distribution of inflation and considerable nonlinearities in the effects of the explanatory variables, beyond the volatility. On average the inflation distribution results skewed on the positive side. We find that inflation react more to cyclical conditions and exchange rate movements in the right tail of the distribution.

Lastly, the analysis described in this article is mostly an illustration on how quantile regression models can be used for generating time varying conditional distributions. It can be further altered according to the specific needs of the policymakers.

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