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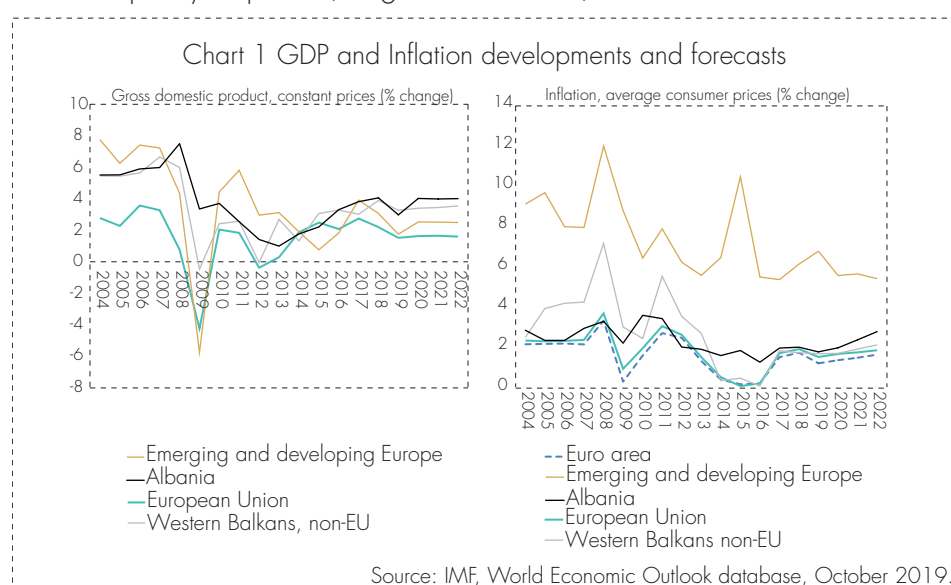
C O N T E N T

THE FUTURE OF BANKING IN THE CESEE REGION AND ALBANIA. AN ANALYSIS OF THE RISKS AND OPPORTUNITIES AHEAD

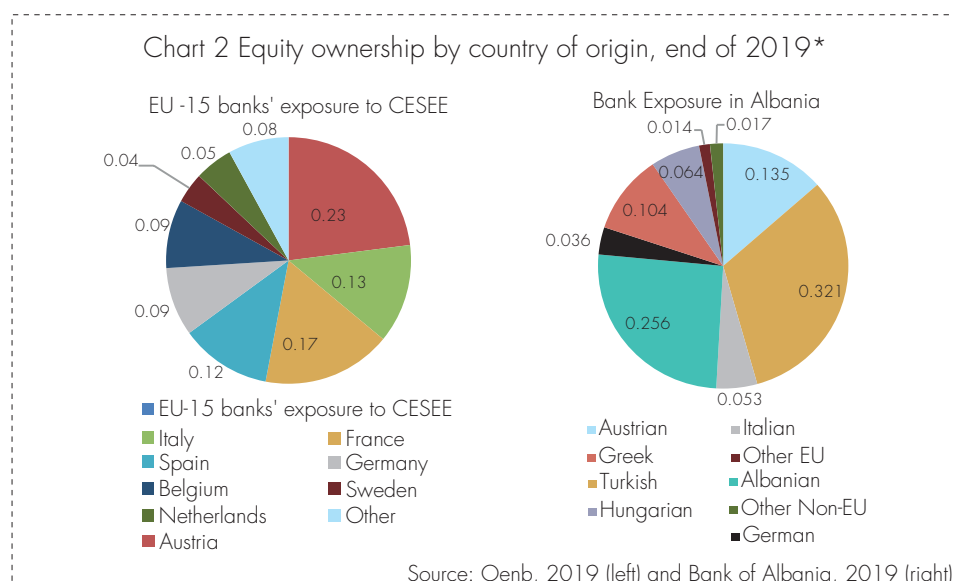*Ola Çami, Research Department, Bank of Albania*

The global financial crisis proved to be challenging both for the European Union countries as well as for emerging and developing Europe. Despite the threat to the economic and financial stability, the CESEE region managed to get through without experiencing a financial meltdown. Looking back, this was due to a sound banking system, external support by ECB, IMF, the World Bank and the Vienna Initiative and also a well-coordinated and aggressive domestic policy response (Klingen et al. 2013).

Chart 1 GDP and Inflation developments and forecasts

Source: IMF, World Economic Outlook database, October 2019.

Post-crisis, the global economy and the CESEE region managed to contain the potential macroeconomic and financial spillovers that would come from the crisis and has been growing over the past years. In 2018, the overall economic outlook was very optimistic. Global GDP was recorded at 3.8% in 2018 and the unemployment rate had reached pre-crisis levels (BIS, 2018). On the other hand, political turmoil slowed down the expansion in 2019 and will continue to do so in the medium term mainly affecting the sentiment of economic agents and the industry sector. Imposed tariffs from the USA, elevated policy uncertainty and tighter financial conditions are threating global trade, investment and definitely output (IMF, 2019). The IMF forecasts have been continually revised downward, starting from July 2018, and currently stands at 3%, the lowest value since 2009. Nevertheless, the growth outlook of the CESEE countries has been more optimistic than the one for the global and advanced economies. The region has been growing on average at a 3.6% in 2018 and at 3% in 2019, with some countries performing better than others, and is projected to grow at 3.2% in the medium term. Albania's projections are very promising at 3.9% (IMF, October 2019). Inflation on the other hand, in both the EU and the region has continued to stay below target, but is expected to converge to target in the medium term.

Under this situation, the global economy is experiencing many challenges. The first challenge is an environment of already low interest rates. As a result, finance has been gaining a new role in affecting the business cycle. Currently, the financial sector is stable, but financial conditions remain accommodative, and as a result, financial vulnerabilities have built up in many regions, including Europe and emerging and developing Europe (BIS, 2019). Risks to global financial stability relate mainly to a future tightening of financial conditions, weaker growth, and policy and geopolitical uncertainties (IMF, October 2019).

As concerning the CESEE, given that the region was not as profitable as before the crisis, some European banks decided to withdraw their subsidiaries from the CESSEE market. In fact it was the Vienna Initiatives I and II which withheld the retirement of subsidiaries from the region. But on the other hand, it was impossible for the Vienna Initiative to stop the urge entirely (Gunter and Epstain, 2019). This was particularly true, but not exclusive to Greek banks which suffered longer from the Greek crisis in 2012 and very real in Albania where these subsidiaries were mostly located due to the proximity between the countries, but also in North Macedonia and Serbia. During 2017 and 2018 major changes have happened to the size, concentration and ownership of the banking sector. In 2019, the Albanian banking sector comprised of 12 banks down from 16 in 2017 (Bank of Albania, 2019).

Chart 2 Equity ownership by country of origin, end of 2019*

Source: Oenb, 2019 (left) and Bank of Albania, 2019 (right).

The changes in the banking sector in Albania and the region in general, did not pose a threat to financial stability and were managed smoothly by domestic and foreign actors. Also, the slow and well-thought process did not impact the private sector sentiment towards the banking sector and therefore can be regarded as successful. Bank of Albania has been paying attention to

* "Intesa SanPaolo Bank" completed the merge by acquisition with "Veneto Bank" in 2018. Also in 2018, "OTP Group", a dominant player in the Western Balkans, acquired "Societe Generale" after its decision to withdraw completely from the region and has openly stated its ambition to expand further in the Albanian market. "Tirana Bank" was acquired by "Balfin SH.P.K", an Albanian corporation and the Macedonian bank "Komercijalna A.D." "Credit Agricole" bank was purchased in 2015 by "TRANZIT SH.P.K", a non-bank financial institution operating in Albania since 2010 which also expanded by acquiring "National Bank of Greece" (NBG) in 2018. "Union Bank", a domestic bank, expanded by purchasing "International Commercial Bank" in 2018. Lastly, Bank of Albania decided to revoke the license granted to "Credit Bank of Albania", due to the bank's voluntary liquidation process.

market dynamics by monitoring and closely supervising the "new" banks to assess development strategies and their implementation and also by reviewing risk management strategies and internal processes in order to ensure compliance with regulatory and supervisory expectations. (Bank of Albania's Supervision Annual Report, 2018).

Nevertheless, the situation may have not yet settled. Banks that decided to continue operating in the CESSEE countries are considering to strategically positioning, hence to withdraw or minimize operations in one country and increase their presence in others. On the contrary, it has been detected an increasing interest from banks and other actors of the region to expand in their own market or in the other countries, acquiring the subsidiaries sold by EU banks.

Chart 3 Banking operations in CESEE, second half of 2019

Source: Bank Lending Survey, EIB, H2-2019.
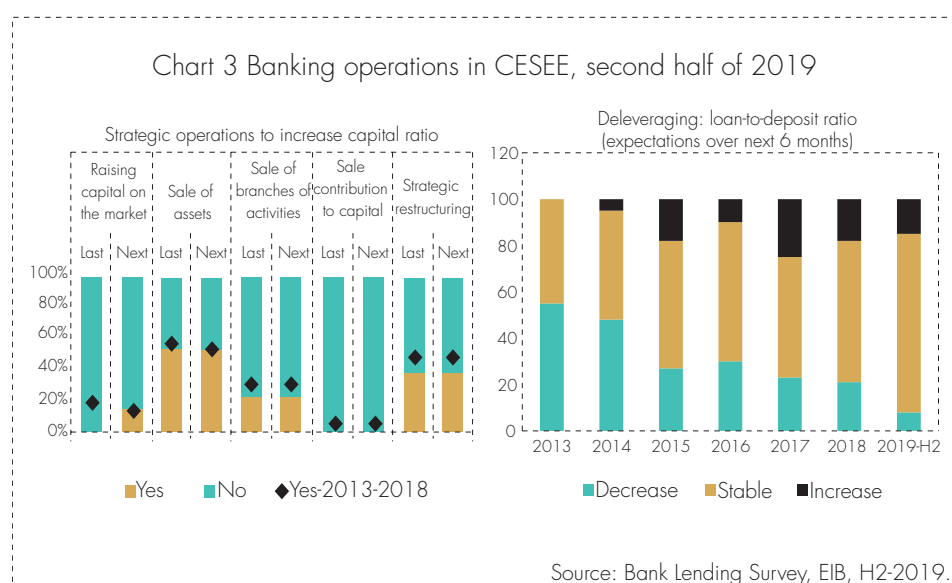
Some of the questions that arise under this context are: What is going to happen to growth, financial and economic integration and lastly to EU integration stimuli if EU-banking groups are going to be substituted by non-EU-banking groups? Is the CESEE region going to be assisted the same in everyday operations and in the instances of another financial crisis by EU and international institutions and if not is there going to be an intervention from parent countries? Moreover, some supervision questions arise. Currently EU-banking groups are subject to a "double" supervision; parent banks are supervised by their own central banks and subsidiaries by domestic central banks. Is supervision going to be as efficient for domestic banks and non-EU banking groups?

EU-Banks have proven, particularly before the crisis, when the region was putting the first baby steps to creating and developing its financial sector, to be the engine to a rapid financial integration and development process in the region and particularly crucial to the creation of an effective and modern legal-regulatory framework. In fact, many economists believe that the financial crisis was buffered so well because of the heavy presence of EU-banking groups in the region where in some countries is as high as above 90% (Arakelyan,

2019). EU-banking groups' presence has played and continues to play an important role in supporting economic growth (De Haas et al., 2015). In their paper, Sejko and Dushku (2017) indeed find that, in the case of Albania, there exists a strong cointegrating relationship between financial development and economic growth. Many similar papers demonstrate the same for other countries of the CESEE region and also for the region as a whole (Klein, 2013).

Furthermore, their presence has also been an anchor of legal and regulative improvement which has been crucial for the process of EU Integration. The presence of EU-subsidiaries in the CESEE region has made possible the establishment of a strong and converging relationship between EU banking and the financial system and the EU supervision institutions and the respective institutions in the receiving economies (Sanfey Milatovic and Kresic, 2016). On the other hand, Western Balkan economies are already closely integrated with the EU. The EU is their largest trade partner, largest source of incoming foreign investment and other financial flows, and the main destination for outward migration (Dabrowski and Myachenkova, 2018). Due to this relationship with EU, the European policies impact the behaviour of the CESEE countries.

Currently, the regulatory environment for financial institutions is generally good in the region and has been improving as a whole in the last decade, partly spurred by an increased adoption of EU practices. In the region, both capital and liquidity indicators of the banking sector report for healthy values. The capital adequacy ratio exceeds regulatory minima. The continuation of the lost loans write off from the balance sheets of the banks has led to the slowdown of the increase of the non-performing loans. The liquidity situation can also be regarded as favourable, suggesting that banks should be able to cope with unexpected shocks. Liquidity indicators point to a gradual decline, with the development and deepening of the intermediary role of banks. However, the ratio of banks' liquidity and capital adequacy varies from one country to another.

Chart 4 Key Performance Indicators of the Banking Sector in CESEE

Source: IMF, Financial Soundness Indicators, 2020.
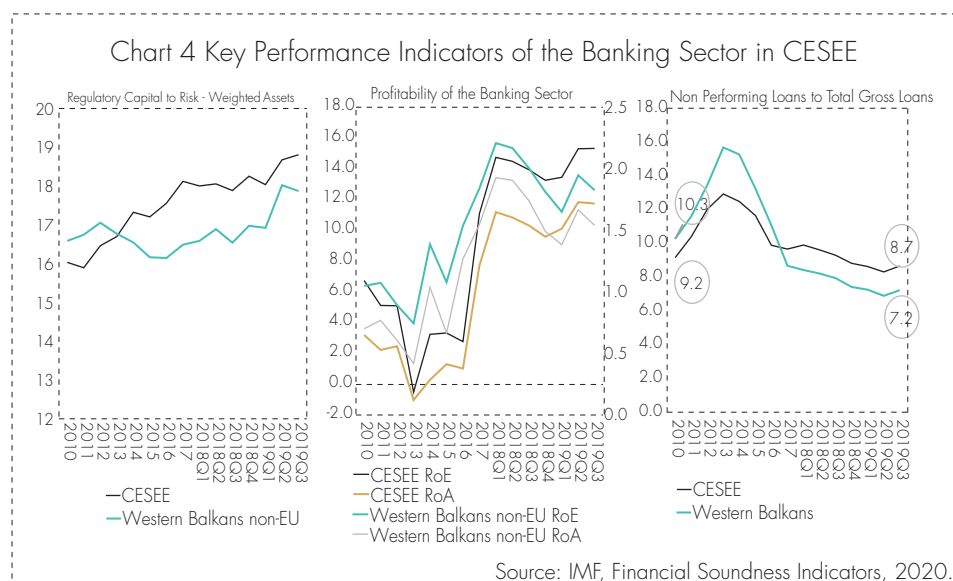
On the other hand, profitability of EU subsidiaries has not been as high as prior to the crisis. European banks are generally remaining at profitability levels lower than pre-crisis levels and have started to grow at a promising rate only in 2019. In the Euro Area the low profitability can be explained by crisis legacies, the macroeconomic environment which has been characterized for quite some time by low interest rates and in some cases by structural facts particularly excess capacity of the banking system (Constâncio, 2016). These effects have had spillovers in the Euro subsidiaries.

As a result supply conditions have been tight starting from 2013, but have evolved positively starting from the second half of 2018. The number of domestic and international factors limiting supply has decreased substantially compared to 2013. Taking a look at the self-reported data from the Bank Lending Survey of the European Investment Bank (EIB), it can be observed that one of the main reason banks have been careful in lending in the past, are local NPL figures. Compared to the CESEE average, the impact was stronger in Albania and Serbia, because NPL figures were the highest. Two large strategies in Albania and in Serbia launched in the second half of 2015, covering banking supervision, tax issues, court procedures, and legal aspects, among other areas (IMF, 2017). In Albania, the non-performing loan ratio has been decreasing since its peak in 2014 at almost 25%. During 2019, NPLs in Albania have been stable at 10-11% of total loans and in November they went down for the first time below 10% at 9.53% (Bank of Albania, 2019). The good news is that the aggressive response has had a positive impact not only on NPL figures themselves, but also on the sentiment of banks towards them and the outcome on credit. Starting from the H2 2017 survey, banks are reporting that local NPL figures, on the contrary, have had a positive impact on lending even though group NPL-s are still having a tightening effect on credit supply.

Chart 5 Domestic factors affecting credit supply 2014-2019

CESEE avg.

Source: Bank Lending Survey, EIB, H1/2014-H2/2019.
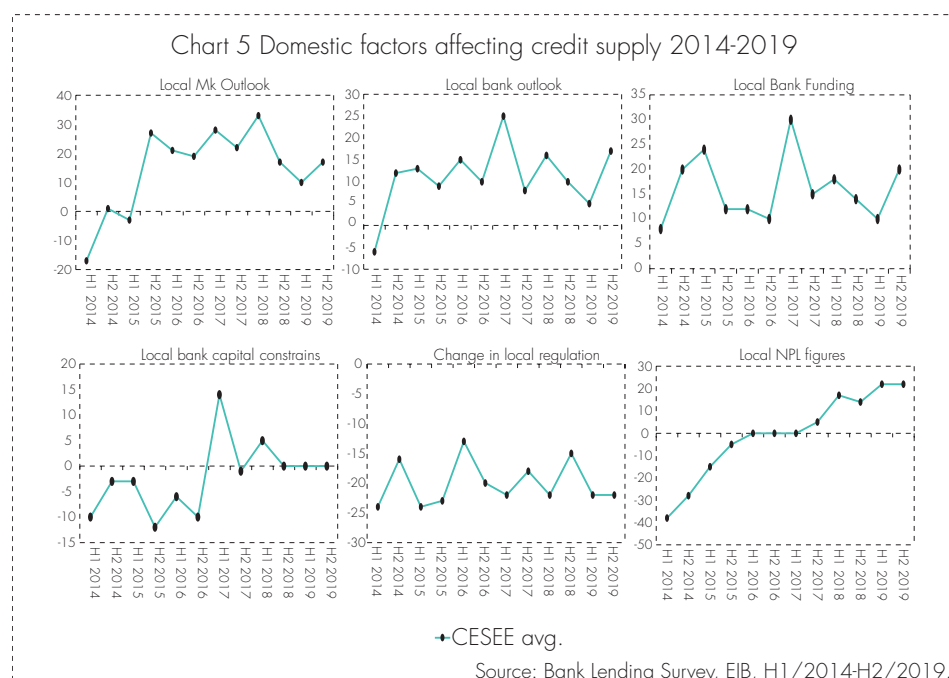
Overall, during 2019, and particularly during the second half of 2019, there has been a clear improvement in the domestic environment and an optimistic attitude towards the CESEE region in general. Most of the domestic and international factors no longer limit supply, although the latter are not significant positive contributors. Banks are reporting an optimistic attitude toward profitability and credit growth even though expectations should be interpreted with caution at the moment due to potential volatility at the current stage of the global economic and financial cycle (EIB, 2019). According to the data (as shown in figure 5), credit supply has always been sensitive to the global macroeconomic outlook and also the real activity in CESEE countries is quite sensitive to changes in global financial conditions (Mihaljek, 2019).

Chart 6 International factors affecting credit supply 2014-2019

Source: Bank Lending Survey, EIB, H1/2014-H2/2019.
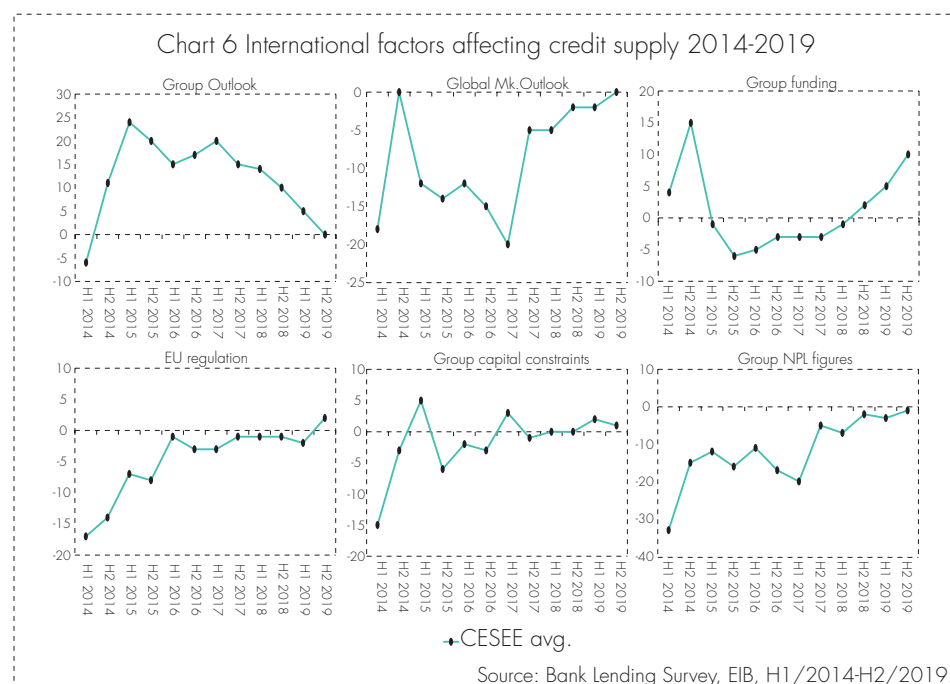
Furthermore, credit supply has also been affected by regulations both domestic and from the EU. Many studies have shown that banking regulations by banks own central banks in fact affects their lending and also lending standards elsewhere IMF (2017). As regulations have built up since 2009, they have tended to introduce more complexity, and with that comes an inevitable cost in terms of compliance (Mersch, 2015). But in today's world, central banks deem financial stability as a top priority. The global crisis has demonstrated very clearly the importance of having adequate safeguards in place to prevent unhealthy risk taking and creation of credit bubbles. Central banks in the region have been in the process of putting in place frameworks to strengthen bank supervision, enhance risk management and governance standards, and increase transparency and statistical disclosure (Jazbec et al., 2015). These prudential aspects of the financial policy framework are meant to reduce the amplitude of financial cycles. Regulations help contain banks' balance sheet vulnerabilities which have been accumulating during the credit boom/bust cycle also due to the recent period of low interest rates. Under these considerations, repairing the balance sheets of both the banking sector and corporate sector is a priority for unlocking credit growth (Jazbec et al. 2015).

Boosting credit growth without addressing aggregate imbalances in the economy can be risky. It is important that good borrowers rather than the bad ones are the main beneficiaries of credit growth.

On the other hand, demand for credit in the CESEE growing robust over the past years, has created a gap between supply and demand. Demand has been growing due to an increase in investment, working capital, housing and consumer confidence and is expected to continue growing in the future (EIB, 2019).

Chart 7 Credit to the private sector, y/y growth rate

Source: EIB, 2019.
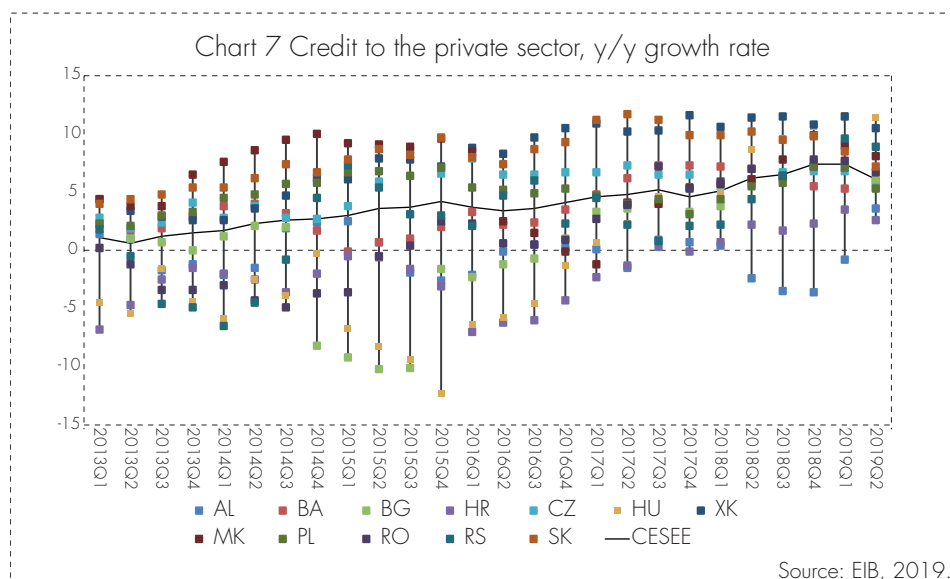
Nevertheless, credit growth is in positive territory and on average the new credit is of better quality. This constitutes that both the macroeconomic environment and the financial environment are conductive of consumption and investment. In Albania, lending to the private sector has been improving, recording an annual growth of 7.5% in the third quarter of 2019, up from 6.7% and 5.9% in the first and second quarter respectively (Bank of Albania's Monetary Policy Report, Q4-2019). The growth in credit has been supported mainly by the credit to the corporate sector and also by the growth in consumer credit. Credit to small and medium enterprises has been improving in Albania and also in the region as a whole during 2019, but the gap between supply and demand is still open.

In this context, SMEs financing has always been crucial for economic growth particularly in the region and in Albania, where SMEs account for significant shares of total output and employment. SMEs play a major role in the regional and Albanian economy, contributing more than half of employment and value added. Access to finance is among the major obstacles to doing business (Hauser et al., 2016; Sanfey and Milatovic, 2018). Banks in the region and in Albania have a high risk aversion attitude toward SMEs financing putting their collateral requirements up to 200% of the loan value (Dushku and Ceca, 2019). Two major surveys conducted at the Bank of Albania, more specifically "Survey of the financial and borrowing status of micro enterprises in Albania" and "Survey of the financial and borrowing status of agricultural enterprises in Albania" SMEs in general and SMEs operating in the agriculture sector in particular lack financing.

The main source of financing for micro enterprises is its own sales and funds. Only 26% of micro enterprises have a loan to pay, while 76% of them report that they do not have one. In the agriculture sector only 18% of agricultural enterprises have a loan to pay. Out of the enterprises which have a loan to pay, 53% of micro enterprises that have borrowed have received it from banks, while 34% of them have borrowed from a person. 92% of agricultural enterprises do not apply for a bank loan, as they do not need it for their business (41% of enterprises), find it a difficult process (32% of enterprises), and they easy to borrow from alternative sources (21% of enterprises). In the meantime, banks remain the key source of financing for CESEE economies, as financial markets in the region are largely bank-based (Arakelyan and Mühlberger 2015).

Based on the latest developments, non-EU banks, non-bank institutions and particularly technological novelties including Fintech and Bigtech have a potential to help. Banking challenges that lay ahead are happening at a time of technological change in the financial sector, more specifically the introduction and rapid growing interest on types of Fintech innovations, Bigtechs and cryptocurrencies. Despite not having sizable implications in the short and medium term for the Albanian economy, the potential of cryptocurrencies still needs to be addressed in the long-term (see Ahmetaj and Hoda, 2019 for more) and in terms of spillovers regarding Fintech and Bigtech (see Hoda, 2019 for more, to be published).

Fintech which refers to technology-enabled innovation in financial services has gained popularity recently. Large technology firms (Big techs) activities in finance are a special case of Fintech innovation. While Fintech companies are set up to operate mainly in financial services, Bigtech firms offer financial services as part of a wider set of activities. Bigtechs such as Google, Alibaba, Ebay, etc. have a high potential to initiate important changes in the global financial markets due to these companies' ability to enable direct interaction among a large number of users and manage huge digital data at zero marginal costs. Despite some big techs have started to engage into providing financial services, the financial business profile constitutes only a small share of their global business and a small share of financial transactions even in these countries. On the other hand, their impact has the potential to be quick and strong in the instance of further growth and should not be underestimated.

The Bigtech DNA (Data analytics, network externalities and interwoven activities) which constitutes the key features of their business model, is probably the most intriguing characteristic of Bigtechs. The DNA feedback loop starts with the increasing number of users, to generate more data which provides input to more data analytics and in return this yield to more users. Therefore DNA has the benefit of analysing a wide range of digital data at a marginally a very low to zero cost. These new technologies which have already started to spread in many branches like payments, retail lending, asset management and even insurance have the potential to bring large efficiency gains. There are three possible ways that the financial market could benefit: first, through the expansion and growth of Bigtechs to become a substantial part of the

financial system, second, through banks benefiting from the information and technology that DNA provide, and lastly, a combination of the two.

Banks, even large one, have not been as effective as Bigtechs at harnessing the DNA feedback loop. The banks costs in researching the clients is costly and can be asymmetric as banks has access mostly to account transaction data and credit scores. On their own, Bigtechs can help the growth of low-risk credit but they also Bigtech can help banks to the provision of financial services by reducing information and transaction cost and therefore promote more efficient allocation of resources and enhance financial inclusion. It seems more than normal that banks, under the new terms of consolidation, will require new paths to penetrate the market, under competitive pressure, and the best form to accomplish such an objective is surely innovative products which will further expand banks' relationship with their clients, thus reducing service costs.

On the other hand, as the customer demands are increasing, non-bank financial institutions including Fintech and Bigtech can become true aggressive competitors to the banking sector. In fact, Bigtech players already have the necessary infrastructure, skills, resources and clients to erode banks market share (BIS, 2017). How the entry of new firms and the use of new technologies in the provision of financial services affects financial stability is hard to predict due to the conflicting literature that analyses the relationship between competition and financial stability. Many economists argue that it would depend on the incentives of individual actors in the market and also systems' characteristics (Bundesbank, 2019). In Albania, two papers at the Bank of Albania agree that the current competition promotes financial stability (Dushku, 2016; Shijaku, 2017), but since they do not take into consideration the potential of new competitors in the market, the questions cannot be answered even for Albania. What can be assumed is that they will pose challenges to future supervision practises. One of the challenges in terms of Fintech and Bigtech adoption from banks or competitor to banks is the coordination of authorities to assure the "same risk, same regulation" rule for the new market entrance while not constraining technological innovation. Moreover, Bigtechs deal with huge amounts of data which not only can be associated with a high risk for data-protection, but also with a potential for price discrimination and adverse welfare effects which all pose challenges to legislators, regulators and policymakers not only in Albania.

Data shows that these technologies have spread more widely to emerging countries where the use of credit cards is low and mobile phone penetration is high (BIS, 2017). In emerging countries what appears to be very much of interest is the provision of remittance services and cross-border retail payments.

Taking into consideration these developments, Bank of Albania, in cooperation with market players, is undertaking reforms aimed at modernizing the financial market to provide citizens and businesses with more efficient and low-cost services. They are so far targeted to prioritizing the promotion of the use of electronic payment instruments aims at financial inclusion of the population in terms of payments, which serves as a first step in the financial inclusion of even the most sophisticated banking and financial products (Bank of Albania, 2019).

CONCLUSIONS

This essay aims to unfold the latest developments in the financial markets of Central, Eastern and South-eastern Europe and especially in Albania by analysing the risks and opportunities of the banking system in the future. The banking system in Albania is well-capitalized and the liquidity situation is favourable. Non-performing loans have shown a strong downward trend in recent years but the revival of lending and the profitability of the banking system is still a challenge for banks and policymakers. In the context of a global economic slowdown, an environment characterized by low interest rates, restructuring bank activities at the global level and a technological "boom" that is expected to radically change the business model of banks, the future of the banking system in the region and in Albania is not expected to stay the same.

To strengthen resilience, policymakers should address financial vulnerabilities that pose risks to financial stability and growth in the medium term. The appropriate policy responses necessarily are country-specific and must take into account the heterogeneity within the various sectors of the economy and the role of idiosyncratic and institutional factors. In this context, policymakers and countries should be doing their homework, and should not rely solely on stronger cooperation on global financial regulation. They also need to accelerate on new and existing structural reforms. In fact, this is important and is going to be even more crucial in the future as a higher level of financial and economic integration is usually accompanied by higher vulnerabilities to external shocks.

It is clear that one of the biggest challenges of the CESEE region today is the need to bust credit growth. But, it is difficult under the current situation to push the banking sector to ease their credit constrains and provide more credit to the economy. Under these considerations, non-EU banks, non-bank financial institutions and technological novelties including Fintech and Bigtech have a potential to help. Taking into account that there are risks associated to new market entrants and actors in general, it is crucial to raise awareness and cooperation across countries to minimize risks and vulnerabilities. Apart for higher awareness and cooperation, it is crucial to gather as much information and data possible concerning new financial technologies that are reshaping financial markets of the world. These data has not been available and is crucial not only to understand better, but also to tailor future laws, regulations and supervision practices to a new future. Last but not least, an improvement in financial literacy would help both individuals and firms establish sounder financial situations and reduce financial risks.

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BUSINESS CYCLE THROUGH THE LENSES OF CONFIDENCE INDICATORS

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ABSTRACT

The decisions of consumers, entrepreneurs, and investors can be shaped by their perceptions for the current economic environment and expectations for the future. Shifts in the agents' sentiment can become an independent source of the business cycles fluctuations. This article aims to empirically assess the effects of confidence shocks to the economic activity fluctuations in Albania. To this end, the Economic Sentiment Indicator, a synthetic indicator drawn from consumer and business confidence surveys, is incorporated into a VAR model explaining economic growth. The analysis shows that sentiment does play some role for the economic activity in Albania. This role gains more prominence during specific episodes which correspond to large and persistence sentiment shocks. There is furthermore evidence for confidence spillovers from our European trade partners to Albania indicating for an additional channel for the transmission of shocks.

1. INTRODUCTION

The decisions of consumers, entrepreneurs, and investors can be shaped, among other things, by their perceptions for the current economic environment and expectations for the future. Shifts in the agents' sentiment[1] through its impact on consumption and investment can become an independent source of economic activity fluctuations. Distinguished economist (e.g Pigou, Keynes) acknowledged this role in their seminal works dating back in the beginning of the 19th century. Since then, the literature, both theoretical and empirical has explored further this idea. A comprehensive summary of the different theoretical approaches and main transmission mechanism of confidence shocks to the macroeconomic variables is found in Nowzohour and Stracca (2017). By and large, theoretical approaches discussing the role of confidence in macroeconomics fall broadly in two main categories: the "information or news" approach and the "animal spirit". The first relates shifts in sentiment with fundamental information (actual and future) for the economic environment, such as technological improvement for instance. Under this approach, sentiment shocks are seen as mainly supply side driven and as such they are considered to have a permanent effect on output. The second approach, "animal spirit", relates shifts in sentiments to purely psychological waves of optimism and pessimism in reflection of expectations about the economic outlook. Under

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[1] *In this article sentiment and confidence are used interchangeably.*

this approach, sentiment shocks are seen as mainly demand side driven – not related to the fundamentals of the economy – having thus a temporary effect on output.

Despite theoretical considerations, many authors agree that the adverse effects of confidence shocks on the economy were clearly seen in the global financial crises which is often labeled as a 'confidence crises' (e.g ECB 2013). Its repercussions were felt both at country level and across countries raising questions whether there is a confidence channel for the transmission of shocks. There is abundant literature documenting both the role of confidence for business cycle fluctuations and confidence spillovers. Recent studies include Brzoza-Brzezina and Kotlowski (2018), who find that confidence shocks play an important role both for the euro area and Poland business cycles. They find also that confidence spillovers are large, accounting for 40% of the business cycle fluctuations in Poland. Aarle and Moons (2017) use the information gathered from sentiment and uncertainty indicators to assess their role in economic activity in the euro area during the Financial Crisis and Great Recession. They find that both sentiment and uncertainty do have an impact on economic activity. Nowzohour and Stracca (2017) examine an international database of economic sentiment for 27 advanced countries and confirm that economic sentiment has an important role in driving economic activity. Dees and Günter (2014) find that confidence shocks explain an important share of business cycle fluctuation for United States, Euro Area, and Germany, France and Italy and these shocks are mainly global in nature.

This article aims at investigating the role of confidence in explaining the economic activity fluctuations in Albania. It also tries to assess to what extent domestic confidence is impacted by confidence in its main European trading partners. The analysis provided inhere follow the above mentioned studies in using survey based indicator to proxy sentiment. Consumers and businesses survey based indicators can be instrumental in revealing the agents' opinion for current and future economic developments. As such, they can provide 'genuine' information about the springing of moods of optimism and pessimism.

The Bank of Albania has been conducting confidence survey since 2002. The Economic Sentiment Indicator (ESI) which is an aggregate indicator of the business and consumer surveys mimics relatively well the dynamics of real GDP growth. After the boom in the pre-crises period, both ESI and economic growth followed a declining trend, reaching their lowest point in 2013. In the last years, both indicators are recovering and ESI standing above the historical average.

This article incorporates the ESI into a VAR model for explaining economic growth in Albania. More specifically, the impulse response functions and variance decomposition are used to investigate the propagation of sentiment shocks to economic activity fluctuations. In addition, the historical forecast error decomposition is used to scrutinize the evolution of the contribution of confidence shocks in shaping economic growth. Furthermore, by including the Economic Sentiment Indicator of our main trading partners, we attempt to examine whether there is a confidence channel of transmissions of shocks.

The analysis of the VAR model confirms the usefulness of the confidence indicators for explaining economic activity in Albania. At the same time, it shows that confidence shocks played a particular important role in the economic slowdown after the Greek and euro area sovereign debt crises and in the acceleration of economic growth in 2016 and 2017. Furthermore, the analysis suggest for the existence of a confidence link between Italy and Albania.

The rest of the article is organized as follows. In the second section we provide some stylized facts about the developments of the confidence indicators and economic activity. In the third section we focus on the synchronization of confidence cycles between Albania, EU and other countries of the region. Section four analyses the role of ESI in explaining the business cycle by the use of a VAR model and section five concludes.

## 2. CONFIDENCE INDICATORS AND ECONOMIC ACTIVITY

Business and consumer survey based indicators are commonly used in the literature for explaining and predicting economic activity given their timely collection and leading properties. The Bank of Albania began conducting on regular basis (quarterly) confidence surveys since the beginning of 2002. The information collected, both at a sectorial level and for the economy as a whole have enriched the Bank of Albania's analytical apparatus and short term forecasting toolkit supporting thus monetary policy decision-making. Starting from May 2016, confidence surveys are fully harmonized with the European Commission methodology and are conducted under the Joint Harmonized EU Programme of Business and Consumer Surveys (BCS) for EU member and candidate countries[2]. Box 1 provides an overview of Bank of Albania past and current practices in conducting consumers and businesses surveys.

This article uses the survey based Economic Sentiment Indicator, which is a composite indicator of the confidence of the economic agents operating in the industry, construction, services, and retail trade sectors and consumers. The ESI is constructed based on the methodology of the European Commission. Readings of ESI above 100 indicate above average confidence/optimism and readings of ESI below 100 indicate below average confidence/pessimism.

Figure 1 illustrates the annual changes in real GDP and ESI (left) and its subcomponents rescaled as the difference from the respective historical average (right). Despite the series being very volatile, especially GDP, both indicators show similar dynamics. Both ESI and GDP are trending upward during 2002-2007 in reflection of the exuberance experienced home and abroad prior to the global financial crises. Then, impacted by the global financial crises and the subsequent Greek and EU sovereign debt, ESI and GDP growth trended down, reaching their lowest level in 2013. Afterwards,

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[2] This programme includes the 28 countries of the European Union as well as the 5 candidate countries: Albania, Macedonia, Montenegro, Serbia and Turkey. For more detailed information see European Commission (2019).

both indicators followed a cyclical improvement with ESI standing above its long term average. The coefficient of correlation is 0.42 for contemporaneous changes and increases to maximum 0.46 when ESI is allowed to lead with 2 quarters the real GDP growth.

Chart 1 ESI and GDP growth (left); Confidence Indicators (CI) as difference from long-term average (right)
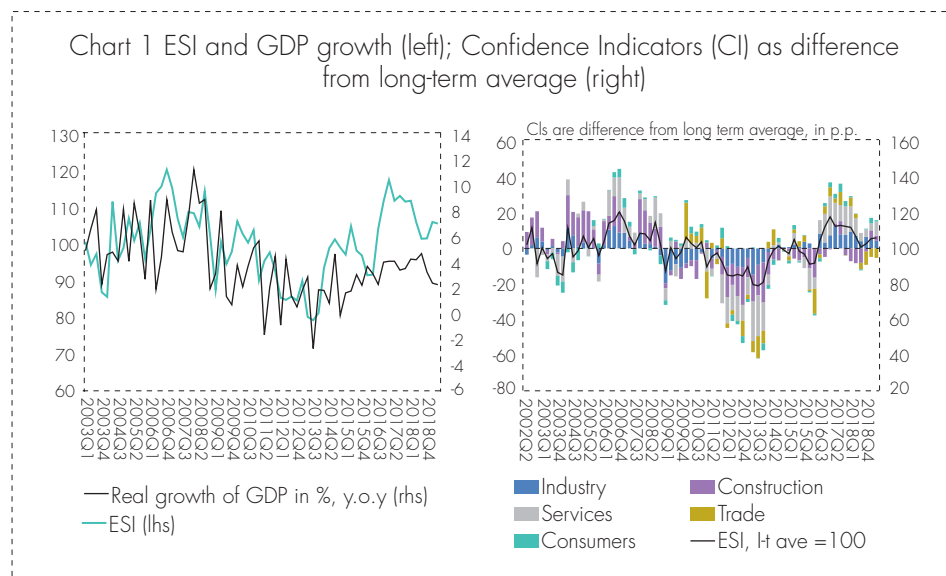
By and large, the moods of optimism/pessimism are synchronized amongst the sectors (shown in figure 1, right panel). Sectorial confidence indicators stood above historical average until beginning of 2009. Then we notice a short-lived divergence between, on one hand consumers and trade confidence indicators contributing positively to the ESI and, on the other hand, confidence in construction, industry and services contributing negatively until mid-2011. The global financial crises hit the confidence of industry first as it is more connected with international demand. It was followed by a sharper and persistent decline in confidence indicators of construction and services. After the Greek crises, all confidence indicators fell below their historical averages. Developments over the last years are positive, confidence indicators level stand mostly above respective historical averages and increasing.

The cross-correlation analyses point to a close relationship between ESI and real GDP growth. It is intuitive to expect some sort of co-movement and feedback loops between them. So, in case of sentiment faltering, one would expect consumer to slow down spending, firms to stop investing and hiring and investors to shift from risky assets to safer ones. All this would then contribute to a fall in aggregate demand and output and a rise in unemployment which on their turn would reinforce the pessimist attitude of the economic agents. The assumed intertwined relationship between confidence and economic activity explains the use of a VAR model to empirically asses the role of confidence on the business cycle. The VAR approach is discussed in section four.

BOX 1 CONDUCTING CONSUMER AND BUSINESS SURVEYS IN ALBANIA

The Bank of Albania began to conduct first confidence surveys in the beginning of 2002 in cooperation with INSTAT. The main purpose in the early days was to collect information on current and expected economic developments in the short-term, at a time when quarterly national accounts were lacking (Çeliku and Shtylla, 2007). Quarterly national accounts data by production approach began to be published by INSTAT for the first time in 2009. INSTAT published data on gross domestic product by expenditure approach (aggregate demand) with quarterly frequency in 2015. During those years of poor statistical coverage of the real economy, the information gathered from the confidence surveys had a significant value for analyzing sector-specific developments in the periodic monetary policy reports.

Regarding the methodology of conducting business surveys, in the beginning, the Bank of Albania has been assisted by experts of the IFO - German Institute for Economic Research. The methodology of consumers' surveys was based since the beginning on the methodology of European Commission (Lama and Istrefi, 2007). Timing of conducting surveys was the last month of the reference quarter: March, June, September and December. Starting from 2010, the businesses and consumers confidence surveys methodology was adapted more to the European Commission methodology: the retail sector survey was added and new confidence indicators were constructed, including the aggregate economic sentiment indicator, ESI.

Starting from May 2016, confidence surveys are fully harmonized with the European Commision methodology and are conducted under the Joint Harmonized EU Programme of Business and Consumer Surveys (BCS) for EU member and candidate countries. Participation in the BCS programme brought the following (main) changes: (i) increased frequency from 4 to 12 times a year; (ii) the comparison reference period in the questions of consumers changed to annual from quarterly and (iii) some questions were dropped from the business questionnaires, simplifying it more.

Confidence surveys are currently organized with a sample of 1200 businesses and 1200 households. The questionnaires contain mainly multiple choice questions (three alternatives for businesses and five for consumers) asking for their opinions for various economic and financial aspects. The responses of business and consumers are quantified through the balance indicator calculated as the difference between the percentages of "optimistic" to "pessimistic" alternatives. The most informative balances are aggregated at sectorial level, thus obtaining Confidence Indicators for each sector. The criterion for choosing the most informative balances is the strongest linear correlation with a reference series, representing the economic activity in the country, in our case annual changes of GDP with quarterly frequency. In highest level of aggregation, all selected balances (13) used to construct CIs are standardized and weighted to form the ESI indicator, similar with the European Commission methodology. Sector weights are assigned based on the share of their valued added to total GDP: industry 14.6%, construction 11.8%, and services 41.5%, retail trade 12.1% and consumers sector is given a weight of 20%.

The table below summarizes the balances series from five sectors of economy selected to construct ESI:

ESI components	Beginning of the series
Industry	
1. Production developed over the past 3 months	
2. Current stock of finished products	Q2 20002
3. Current overall order books	
Construction	
4. Building activity over the past 3 months	
5. Overall order books, current	Q2 20002
Services	
6. Business situation over the past 3 months	
7. Demand over the past 3 months	Q4 20002
Trade	
8. Business activity over the past 3 months	
9. Total employment, expected	Q1 2010
Consumers	
10. Financial position, expected	
11. General economic situation, expected	
12. Major purchases	Q2 2003
13. Current financial situation	

Though the frequency of conducting confidence surveys is monthly beginning from May 2016, the frequency of publishing results (analysis of the latest results and time series) at the Bank of Albania website and in written Monetary Policy Reports is quarterly. The addition of monthly observations will consolidate the technical estimate of seasonal component, enabling us to publish confidence indicators with quarterly frequency. Individual balances with monthly frequency are currently used for short forecasting of GDP, consumption and private investments.

3. CONFIDENCE INDICATORS AND CROSS-COUNTRY SYNCHRONIZATION

The focus of this section is the analysis of business cycles synchronization in Albania, selected countries of EU and the neighboring region. Confidence indicators can potentially be very good 'candidates' for analyzing the business cycles as an alternative to hard data. They are both timely and easily comparable. In addition, they do not require statistical manipulation to identify the cycle as by construction they are stationary series, fluctuating around the historical average. Sentiment cycle synchronicity among EU countries has been the focus of various studies, for example Gayer and Weiss (2006), Weyerstrass, K. et al. (2009) and Thomakos and Papailias (2014).

We will start our comparison analysis with the economic sentiment indicator of EU, Italy and Greece given close trade and financial linkages. Nevertheless, benefiting from the rich database of EU Commission we will extend our graphical analysis to include also our neighboring countries such as North Macedonia, Montenegro and Serbia[3].
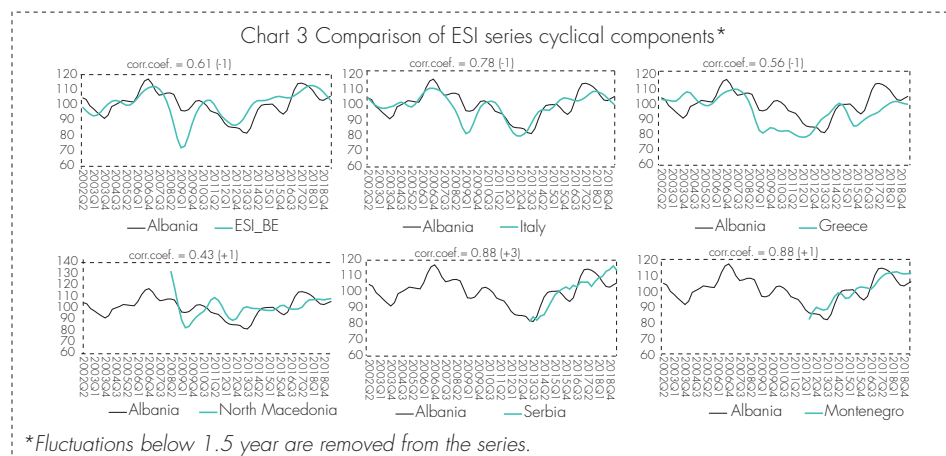
Figure 2 plots the ESI for Albania and the other countries under study. Though being more volatile, the ESI of Albania displays close similarities with ESI of EU, Italy and Greece. Simple correlation coefficient analysis shows a pairwise coefficient of 0.66 between ESI in Albania and Italy, 0.53 between ESI in Albania and EU and 0.49 between ESI in Albania and Greece. In any case the correlation peaks with a quarter lag: development in ESI in Albania follows with a quarter lag ESI developments in EU, Italy and Greece.

In a regional perspective, graphical inspection shows similar movements of sentiment among Albania, North Macedonia, Serbia and Montenegro. Nevertheless, it is early to draw strong conclusions about synchronicity because a full cycle is not yet concluded in the time span covered by the data. During the more recent period, confidence in the region has been on an upward trend.

Chart 2 ESI developments for Albania and other comparing countries
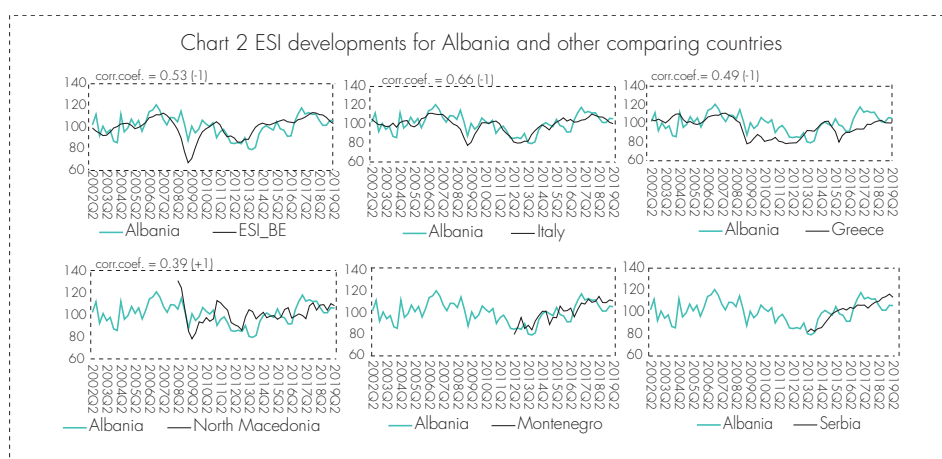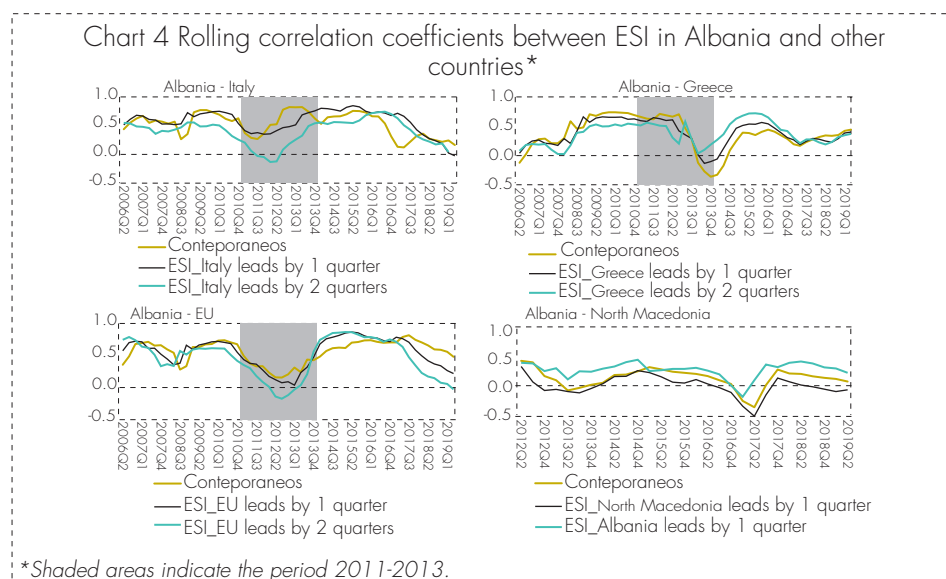
Filtering out the very short term fluctuations of the ESI series enables us to have a better view of their cyclical patterns. Figure 3 plots the smoothed series by applying the Hodrick Prescott filter with the parameter lambda modified to 1, thus removing fluctuation under 1.5 years. Graphical and cross-correlation analysis confirms the results of the analysis using unfiltered data. The magnitude of the correlation coefficients is higher in this case; however the lead/lag structure does not change. Changes in the confidence of Italy and Greece precede those in Albania. After the crises of 2008, the filtered out series of ESI for Albania shows that the magnitude of the fall was less pronounced compared with other countries. Instead it entered a gradual downtrend and reaching the historical minimum level in 2013.

[3] *They are EU candidate countries for which the European Commission conducts harmonized confidence surveys. North Macedonia survey indicators begin from 2008 while the confidence indicators for Montenegro and Serbia start in 2012 and 2013, respectively. The survey indicators taken from the European Commission statistical database are monthly and seasonally adjusted. We have converted them to quarterly frequency by simple averaging the monthly values*

Chart 3 Comparison of ESI series cyclical components*

Fluctuations below 1.5 year are removed from the series.

How has changed the synchronization of the sentiment cycle over time? To answer this question we apply the rolling correlation analysis on raw data. We calculate pairwise correlation coefficient for a rolling window of 4 years. In this way we can track the changing of the correlation since 2006 for EU countries and since 2012 for North Macedonia[4]. The rolling coefficients are plotted in the figure 4.

Chart 4 Rolling correlation coefficients between ESI in Albania and other countries*

Shaded areas indicate the period 2011-2013.

Sentiment cycle synchronization between Albania and EU is quite high throughout most of the time. The correlation coefficients are above the level of 0.5 for most of the period. Nevertheless, one major break in the synchronicity can be distinguished during 2011-2013. In particular, the leading property of EU sentiment indicators is lost in these years. The same disconnection is also found in comparison with ESI developments in Italy and Greece for this period. Apparently, as the smoothed series developments in figure 3 illustrate, the Albanian businesses and consumers confidence was impacted to a lesser extent by the global financial crises than by the Greek and EU sovereign debt crises. Confidence level dropped to the lowest level in 2013.

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[4] *Due to short time series, this analysis does not include Serbia and Montenegro.*

After 2013 we notice a strengthening of confidence synchronization for Albania and EU countries, till 2018. Recently, the decline in the confidence of EU and Italy and the higher volatility of ESI in Albania has induced a lower correlation. This is more evident in the relationship between Albania and Italy. In contrary, we can see (the left bottom graph of figure 4) a strengthening of confidence cycles between Greece and Albania recently.

Table 1 Correlations between confidence indicators (CI) for Albania and other countries*

	Industry	Construction	Services	Trade	Consumers
EU	0.70(contemp.)	0.59 (-4)	0.47 (-1)	0.17(contemp.)	0.25 (-2)
Italy	0.79(contemp.)	0.64 (-4)	0.64 (contemp.)	0.29(contemp.)	0.16 (-1)
Greece	0.70(contemp.)	0.61 (-4)	0.57 (-2)	0.26 (-3)	-0.13
North Macedonia	0.54(contemp.)	0.48 (contemp.)	0.42 (+2)	0.03	0.63 (contemp.)

* The minus sign indicate the foreign CI is leading Albanian CI, the positive sign indicate lagging
* The shaded (grey) cells indicate the highest coefficient of correlation among the sectors of the countries we analyze.

Table 1 above summarizes the cross-correlation of the subcomponents of ESI amongst the countries. We find the highest correlation in the industry sector; with the coefficient varying: from minimum level of 0.54 between Albania and North Macedonia to the maximum level of 0.79, between Albania and Italy. The correlation is higher for contemporaneous movements in all cases. Higher correlations in the industry sector can be explained by the common factors affecting this sector (for example external shocks of rising raw materials, global demand shocks etc.), as well as closer trade relations between countries. In addition, the highest synchronization of Albanian industry confidence cycle with Italy reflects to a large extent the high share of the Albanian textile and footwear exports towards Italy.

The sentiment in construction and services is also highly correlated with the neighboring countries. Again, the coefficient of correlation is higher with Italy. On the other hand, retail trade sector and consumers sentiment indicators are the less correlated; an exception is the high correlation of consumers' confidence between Albania and North Macedonia[5].

To summarize, the cross-correlation analysis shows overall high synchronization of confidence cycles between Albania and the neighboring countries – especially Italy - although the global crisis induced a temporary disruption. Developments of sentiment cycles in EU lead with 1 quarter the sentiment cycle in Albania. This makes confidence indicators more valuable and important to monitor, as they can signal early in time possible turning points in economic activity.

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[5] The coefficient of correlation for this pair is 0.63 and the relationship is contemporaneous.

4. A VAR ANALYSES

The analysis thus far motivates us to investigate further the link between confidence and economic activity in Albania. To this end, we will test whether confidence indicators – specifically the composite one, ESI - provide additional information for economic activity fluctuations beyond the information already incorporated in hard data. For this purpose, ESI is incorporated into a VAR model explaining economic growth. The deployment of a VAR framework is a convenient approach commonly used in the literature for analyzing the intertwined relationship between confidence and macroeconomic variables (see e.g. Aarle and Moons 2017, Mendicino and Punzi 2013, Dees and Brinca 2011, etc).

The VAR model is shown below:

$$y_t = \sum_{i=1}^{q} A_i y_{t-i} + \mu_i$$

$$y = \begin{pmatrix} Surveys \\ Fundamentals \end{pmatrix}$$

Where

and μ_i is a vector of orthogonalised shocks.

The information set includes ESI, real GDP and economic fundamentals that are found to have predictive power to explain economic activity fluctuations in Albania. The latter include the real monetary conditions and GDP growth of the EU. Monetary conditions of the economy are represented by an index, which takes into account the lending interest rate and the exchange rate. The weights for these two components are taken from the mid-term forecasting model of the BoA, and are 50% each. Lending rate is a composite rate itself, calculated as a weighted average of lek lending rates and euro lending rates based on lek and euro share in lending (40% lek and 60% euro). An increase in interest rates or an appreciating domestic currency, i.e. an increase in the monetary conditions index, mean tighter monetary conditions and vice versa. Therefore, its relation with economic growth and the economic sentiment should be negative.

The variables are stationary in levels expect for GDP for Albania and EU which enters the VAR in annual growth rates. The model is estimated on quarterly data for the period 2002Q2 – 2019Q2. The VAR lag length of 1 was selected on the basis of both SIC criterion and residual diagnosis.

A Cholesky identification scheme is chosen to orthogonalise shocks. The ordering of survey variable first is justified by the exogeneity criterion. Survey data are collected in the last months of the reference quarter, implying that the respondents have yet no information on hard data. Thus we can assume no contemporaneous response of the ESI to shocks to the other variables in the system. The same principal is found in Mendicino and Punzi (2013). For

robustness check we changed the ordering of the variables, which did not yield different impulse response functions and variance decomposition.

Below we will report our main findings based on impulse responses function, variance decomposition and the historical forecast error decomposition.

Figure 5 illustrates the impulse response function (IRF) of a shock in confidence on real GDP growth. The results are in line with the economic intuition as a positive shock in confidence increases GDP growth. An increase in the ESI, as explained above, can be interpreted as an increase in the agents' perception about the current and future economic environment. The impact of a positive shock to ESI is significant in the short term with real GDP peaking on impact and remaining elevated in the subsequent quarter. However, after the initial responses, the impact fades away and the IRFs are insignificant at 90% after 2 quarters. This indicates that there is no significant long-run correlations between confidence and real GDP. The variance decomposition of GDP (not displayed here) reveals that confidence shocks explain around 14-15% of the output variance in the 10 quarter horizon.

Chart 5 Impulse responses function of real GDP to an innovation in confidence
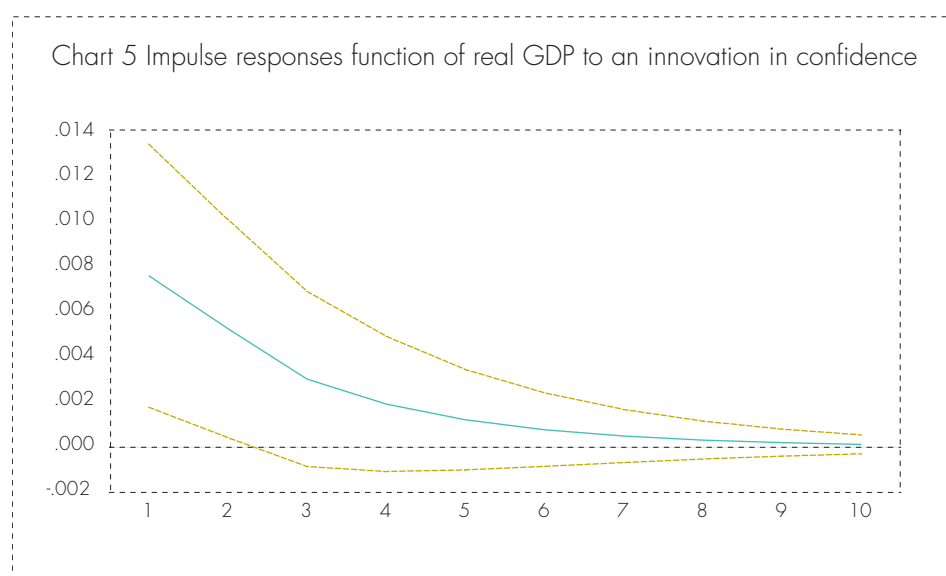
We extend our first VAR model to include also the economic sentiment indicators of our main trading partners, EU, Italy and Greece. We want to check whether changes in the confidence in these countries spill over to the confidence in Albania. Consequently, this specification allows us to get a glimpse of the additional information that the ESI of EU, Italy and Greece can provide for confidence in Albania. The impulse responses function of ESI in Albania to a positive shock in the ESI of EU, Italy and Greece show a positive impact of the foreign confidence to the domestic one. Nevertheless, the impact is statistically significant only for Italy. Figure 6 illustrates the impulse response function to a positive confidence shock in Italy on confidence in Albania. On impact, a shock to the ESI of Italy has a very small and insignificant effect on the confidence in Albania. However, after the initial response, the impact increases – peaking after two quarters – and gains significance. The results suggest for a potential confidence link between Albania and Italy. This

finding embraces the evidence provided in other studies for the existence of a confidence channel for the transmission of shock as in Dées and Güntner (2014), Dees and Brinca (2011), Fei (2011), etc.

Chart 6 Impulse responses function of domestic confidence to an innovation in confidence in Italy
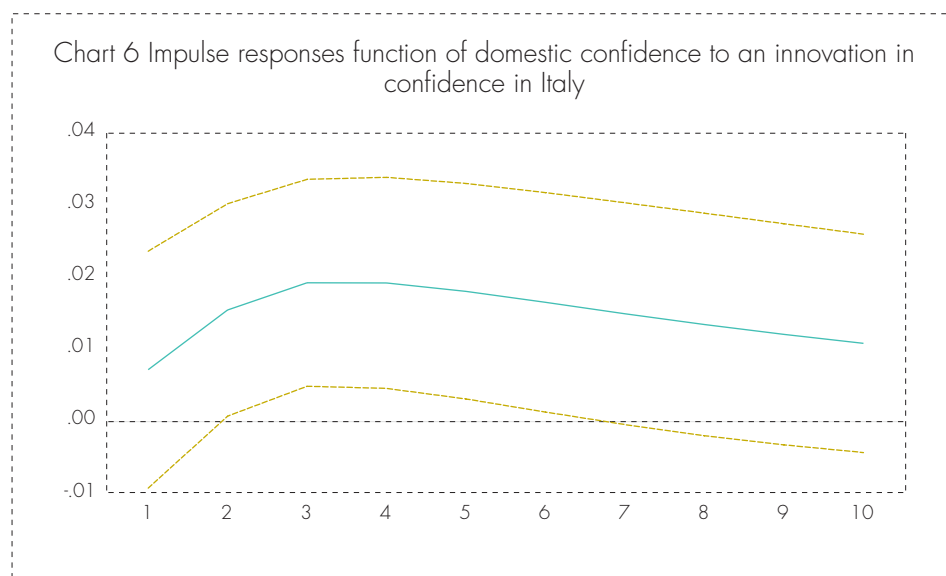
Lastly, we use the historical forecast error decomposition to investigate the role played by confidence shocks in shaping real GDP in the last 15 years.

Figure 7, illustrates the historical decomposition according to the pure model derived baseline projection for GDP and two types of shocks, namely economic fundamentals and confidence. It is visible from the figure that economic fundamentals play a larger role relative to confidence shocks in shaping GDP growth. Nevertheless, one can notice that the relative importance of shocks to confidence increases during some specific periods corresponding to episodes of crises and/or economic upturns. By and large, contribution of sentiment shocks to real GDP growth was positive until beginning of 2010 and negative between 2011 and 2014 and again positive in 2016 and 2017. The global financial crises brought about a worsening of the sentiment in Albania as illustrated by the fall in the ESI during 2008. However, the fall was relatively mild reflecting to a certain degree the high fiscal stimulus provided to the economy during the financial crises and in the immediate years after.

Nevertheless, the onset of the Greek crises and the following EU sovereign debt crises is identified by the model as the incidence of large and persistence negative sentiment shocks. These shocks dragged down real GDP growth of that period. Sentiment became again a booster of economic growth during 2016-2017 amidst positive readings of economic growth, both home and abroad, and record readings of ESI indicator.

Chart 7 Historical forecast error decomposition of real GDP
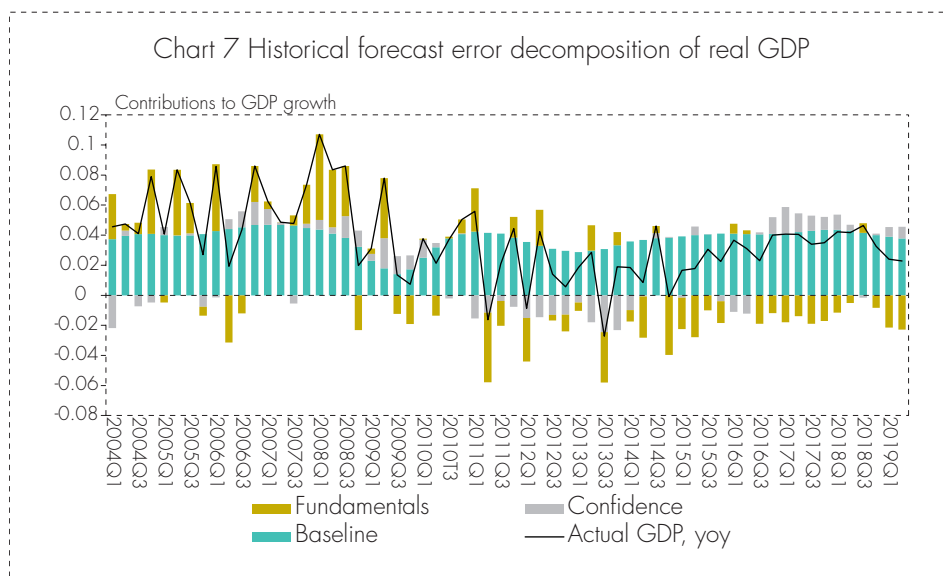
The episodic prominence of confidence indicators in explaining economic fluctuations might suggest for a non-linear relationship between the two; with the relationship becoming stronger in cases of large swings in confidence indicators (see e.g Dees and Brinca 2011, ECB 2013). This would imply that ESI fluctuations beyond some threshold levels might be more informative for future economic growth. In line with the above mentioned studies we tried to estimate the upper and lower thresholds for ESI. Subsequently we calculated several 'alternative ESIs', featuring only values beyond the threshold levels. By comparing the IRFs, variance, and forecast error decompositions, it comes clear than using only extremes values of ESI do not bring additional benefit to our analysis. Nowzohour, Stracca (2017) draw a similar conclusion when looking at the role of economic sentiment for macroeconomic and financial variables.

5. CONCLUSIONS

The purpose of this article is to explore the role of confidence indicators for economic activity fluctuations in Albania. A question arises whether confidence indicators contain additional information for the economic activity, beyond the information already incorporated in hard data. To answer this question we included the Economic Sentiment Indicator – which aggregates the agents' perceptions for current economic environment and expectations for the future – along with monetary conditions and economic activity in EU into a VAR model for explaining the economic growth in Albania.

We find that sentiment shocks affect the economic growth though their impact is relatively small and short-lived. Nevertheless, when quantifying the relative impact of sentiment shocks to other economic fundamentals we find that confidence shocks play an important role especially during specific episodes corresponding to large and persistent changes in the confidence indicator.

Furthermore, in the cross-country analysis, we find similarities between the confidence cycles of Albania and EU countries. We assess the possible impact of foreign sentiment to the domestic confidence through extending the VAR model to include the ESI indicators of EU, Italy and Greece. The impulse response functions of ESI in Albania to a positive confidence shock abroad show that domestic confidence is positively impacted. Nevertheless, this impact is found to be statistically significant only for Italy.

The above analysis confirms the importance of confidence as a potential source for business cycle alterations in Albania. This finding is policy-relevant, as it suggests that changes in sentiment can be used to signal and predict economic cycle turning points. This can be a topic for future investigation. Actually, the information collected from the confidence surveys have enriched the Bank of Albania's analytical apparatus and short term forecasting toolkit supporting thus monetary policy decision-making.

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THE IMPACT OF SEASONAL FACTORS ON INFLATION IN ALBANIA FOR THE PERIOD 2008-2018

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ABSTRACT

This article aims to verify the hypothesis of the presence of significant alterations of seasonal behaviour of headline inflation and its main groups, in Albania, in time and in intensity, for the period 2008-2018. The article concludes that during this period, seasonal behaviour has undergone changes in terms of time shifts and amplitudes that seasonal factors evidence. Despite the verified changes, the "unprocessed food" category remains the main determinant of seasonal fluctuations. In this context, the importance of presenting the seasonally adjusted effects and implications for headline inflation is highlighted.

1. INTRODUCTION

The effective implementation of the inflation targeting strategy largely depends on our knowledge of all the factors responsive for the value of inflation, as one of the most representative indicators of prices performance in the economy.

The analysis of the inflation time series is complicated by the presence of different components that influence the time series structure. These, as a rule, include the component of the trend, the cycle, the seasonal factors, the short-term errors caused by the transitory processes, and the errors resulting from the data collection process. Their existence not only complicates process of the analysis, but also furthers the inflation forecasting and decision-making process.

Considering that the CPI series includes the four above-mentioned important sub-components, the article focuses specifically on the study of seasonality. It attempts to analyse the structure, performance and impact of this factor on the overall CPI performance. To better study the source of seasonality, the article has deepened the impact of seasonality on some of the CPI sub-components.

2. THE NECESSITY FOR SEASONAL ADJUSTMENT

As mentioned above, it is necessary to elaborate the current data before starting the analysis of inflation and the factors that have determined it. In this process, some sub-components of the consumer price index, such as trend and seasonality, need to be identified to perform the inflation forecast. A solution to this has been provided by calculating inflation in annual terms. The annual rate, by the way of calculation, largely eliminates trend and seasonality.

Therefore, for the purposes of analysing and forecasting inflation, as well as monetary policy communication, the annual inflation rate is used.

Monetary policy decisions, however, should be based both on time series that includes long periods and on the current data. The annual rate includes a large amount of information from developments in the previous 12 months. Therefore, it is necessary to analyse the latest developments, the events that have taken place in the last 2-3 months, in addition to annual inflation. This is done through the monthly inflation indicator. The latter gives a current and clear picture of inflation, if it is cleared from less relevant monetary policy information. Thus, as long as the analysis of the inflation indicator will concludes to the factors that affect price developments, it is necessary to identify some regular data fluctuations, one of which achieved through a statistical process called seasonal adjustment.

Seasonal adjustment is a statistical technique that removes the impact of season, holidays, the beginning of the study year, or other events that occur regularly during a year in a time series with economic data. This technique enables the identification and analysis of cyclical trends and other non-seasonal components in time series. By removing seasonal fluctuations, time series become smothering, thus facilitating the analysis of high frequency data, mainly monthly.

At the same time, the approach to seasonality also has an important aspect for monetary policy communication. The seasonal factor present in monthly inflation, which is published by the statistical authority, may create exaggerated or much lower expectations of inflation. The monetary authority, through its decisions, explains that often significant monthly price figures at certain times of the year are a consequence of seasonality and this effect has to be mitigated in times when the seasonal effect no longer behaves at the same intensity.

3. A BRIEF RESUME AT THE LITERATURE

In "Measuring short-term inflation for central bankers", Cecchetti (1996) points out that the monthly CPI variation contains so many fluctuations around the trend, such as its added value for decision-makers is reduced. For this reason, that information needs to be processed or adjusted.

Bryan and Cecchetti (1995) and Cecchetti (1996), in their studies, analysed the presence of seasonality for US data and its importance in economic analyses. At the same time, they explain the difficulty in identifying an easy origin of determining seasonal price volatility. However, they claim that most of information coming from seasonal adjustment contains useful information that must be considered when making macroeconomic decisions. Although many macroeconomists are of the opinion that policy makers should not be influenced by seasonal developments in decision support, as this simplifies their work when there is no interaction between seasonal cycles and business cycles, there are alternative views as well. J. Miron (1990) explains that

seasonal fluctuations contain important economic cycle information and can have a significant impact on consumer expectations. In this way, seasonal fluctuations should be interpreting with caution in macroeconomic analysis, and not only as a component of the data series.

4. DATA: THE CASE OF ALBANIA

The monthly Consumer Price Index (CPI) data were used in the study from January 2008 to December 2018. The seasonal factor was studied for both the CPI and its main categories included in the table below (Table 1). The categories included in seasonal factors analyse account for more than 90 percent of the CPI structure. The category "goods with regulated prices" is not affected by seasonal fluctuations.

Table 1 The categories of goods and services of the CPI basket.

Total of all items (weights)
1.Processed food (25.2%)
-Bread and cereals (6.7%)
-Milk, cheese, and eggs (7%)
2.Unprocessed food (16.9%)
-Fruits (3%)
-Vegetables (5%)
3. Goods (15.5%)
- Clothing and footwear (3.7%)
- Furniture household and maintenance (5.8%)
4.Energy (4.6%)
-Fuel and oil (3.6%)
5.Services (30.1%)
-Hausing (13.4%)
-Hotels, coffe and restaurants (3.3%)
6. Regulated prices (7.7%)
- Water supply (1.1%)

Source: INSTAT

In the article, the seasonal adjustment of the data and seasonal factors were obtained using the X12-ARIMA method[1].

5. EMPIRICAL ANALYSIS OF INFLATION SEASONALITY

The presence of seasonal component in inflation time series is a common phenomenon in both advanced and emerging economies. Almost regular price fluctuations of some of the food, non-food goods or even services, within certain periods or months and for several consecutive years, create the seasonal profile of headline inflation.

In emerging economies, with significant production and consumption profiles towards agro-industrial goods, seasonality in inflation would be mostly driven by regular seasonal fluctuations in food prices. Some of the factors driving the seasonal behaviour at these prices are: seasonality in agricultural production;

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[1] *Referring to the procedure followed by Deutsche Bundesbank, (Central Bank of Germany).*

seasonality in demand and consumer behaviour; usual seasonal weather conditions etc. (Kaminski et al., 2014). Referring to the case of Albania, from the analysis of the main components of the CPI (Gr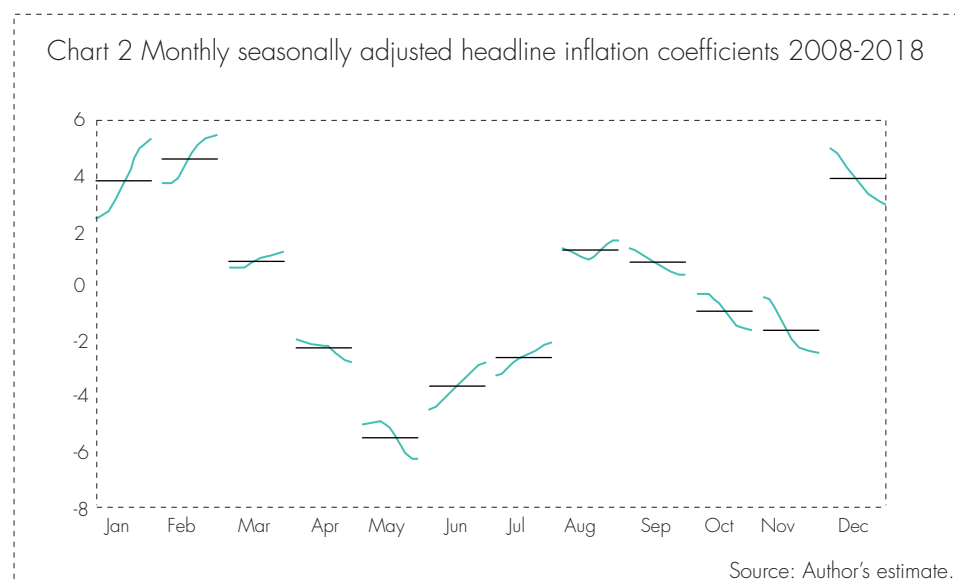aph 1), it is observed that the highest seasonal fluctuations occur in food prices, moreover the raw prices (Steel, 2015). Seasonal factors of the other three CPI components have a significantly lower impact on the total seasonal factor.

Chart 1 The monthly rate of inflation rate and its components

Source: INSTAT and author's estimate.
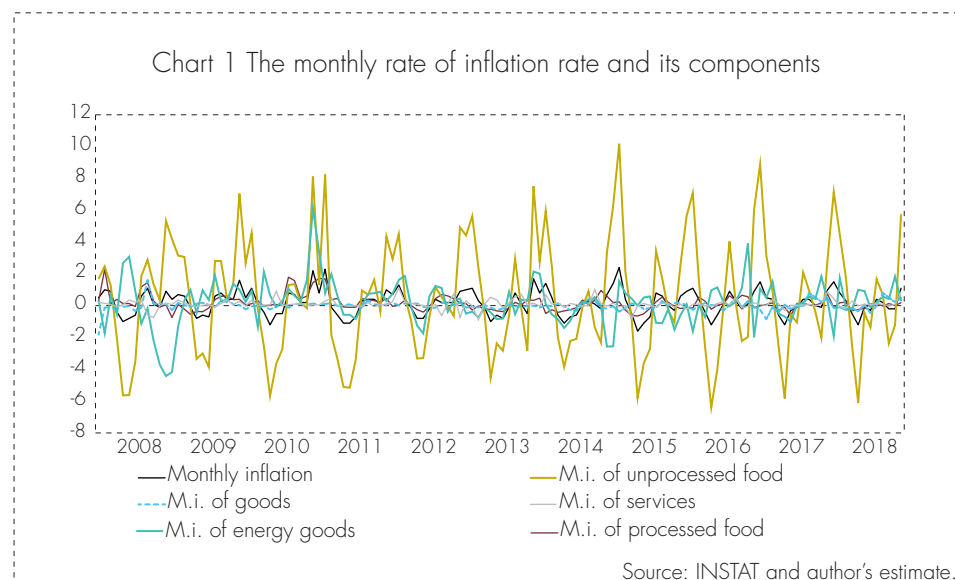
In the first months of the year, the seasonal factor has a moderately positive size, which culminates in February (Graph 2). In March, the seasonal impact is slightly positive, while in April the seasonal factor becomes negative to continue until July. May also marks the highest intensity of negative coefficients. From August, the seasonal factor returns to positive territory and results in positive values in September, although at lower intensity. In the following two months, October and November, seasonal fluctuations are characterized by moderately negative values. The performance of the seasonal factor peaks up in December, during which the intensity of this factor shows a significant increase in the last week of this month.

Chart 2 Monthly seasonally adjusted headline inflation coefficients 2008-2018

Source: Author's estimate.

Often seasonality is the determinant component of headline inflation. If the intensity of seasonal factors in inflation remains almost unchanged within years for long periods of time, the forecasting of inflation would be relatively accurate. More specifically, inflation developments in Albania, in the region and beyond, have shown that seasonal factors in inflation may remain important keeping the direction of fluctuation of inflation (growth/decrease), but in time they may lose or gain contribution to the headline value. However, seasonal factor analysis for the period under study confirms the fact that in CPI series occasionally occur irregularly events during the year, causing surprise fluctuations in this series and consequently in the inflation rate. These "surprise" events are largely caused by food prices (about 40% of the basket) and more specifically by unprocessed foods. One more reason that makes it necessary to study these seasonal profile fluctuations in our case is the relatively high weight these products have had in the baskets used to measure CPI. This also results in many cases, those with not too large transformations of seasonal behaviour in the prices of fresh agricultural products, having significant effects on inflation.

In general, the fluctuations in food item inflation, mainly shaped by its seasonal price behaviour, give a significant positive contribution to the period under study (2008: M1-2017: M12), becoming determinant in shaping the inflation figure. Thus, if the average annual rate of inflation in this period was 2.3%, this group's contribution to inflation formed about 75% (or 1.7 percentage points, pp) of this rate. Meanwhile, the contribution of other categories, which include non-food goods and services, after a period of time (2008: M1-2013: M01) when their contribution to headline inflation marked significant values (around 1 pp on average), began to decline (0.1pp average contribution to the inflation rate) and turn to negative values in some periods (2013: M2-2013: M08), (2015: M8-2016: M05). But, in contrast with the group of unprocessed food, prices of other goods and services have been largely influenced by factors that do not have seasonal behaviour.

Chart 3 Contributions to headline inflation by three main groups (in percentage points)

Legend: Processed foods | Other consumer goods and services | Unprocessed foods | Total

Source: INSTAT and author's estimate.
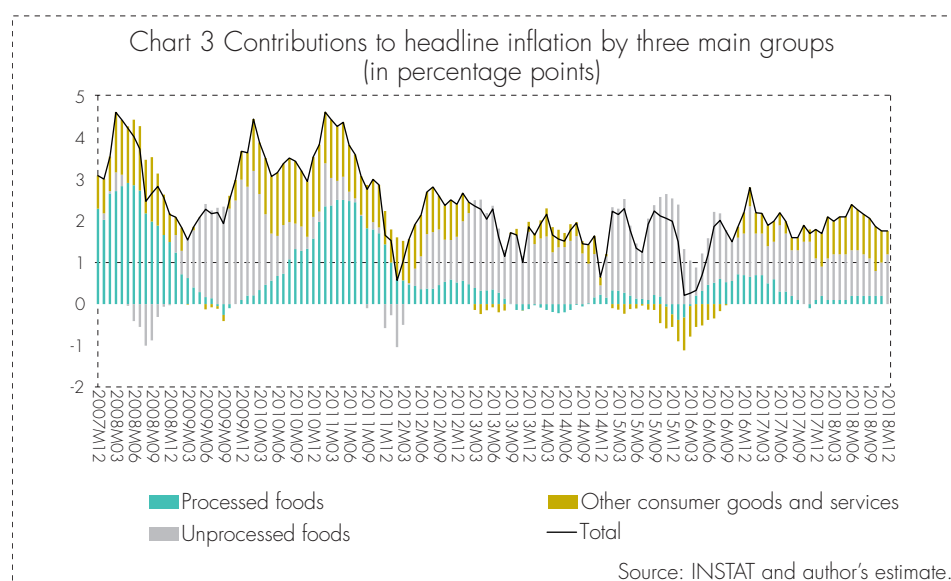
Thus, after 2013, the decline in their contribution to inflation relates to factors that determine the prices of some of the important and weighted goods in the

inflation basketlike the fuel prices. Also, since 2011, a consistent contribution in non-increasing prices is due to the absence of rises in regulated prices. Before this year these were a frequent episode.

The above developments in inflation show that seasonal factors remain important preserving the direction of fluctuation (increase / decrease), but in time they may lose or gain in intensity. Changes in seasonality are caused by: surprise weather events; incorporating marketing policies and changing farmers' behaviour in marketing; differences in cost of transaction and transportation costs; changes in the structure of markets; financial constraints (lack of liquidity / low credit support); degree of investment in agriculture; increasing productivity through intensifying methods; the increment of greenhouse areas that enable agricultural production of any season throughout the year; the degree of integration of markets; the customs agreements, the application of cross-border facilities / barriers, factors that have influenced the import-export activity of fresh agricultural products and consequently their prices.

Moreover, due to the combination of the above factors, in the case of Albania, seasonal behaviour is "deformed" in some periods. Estimations show that the intensity of seasonal factors has changed in certain periods, shifts in seasonality have occurred, and the direction of impact of seasonal factors has changed in certain months of a given year. Some of the cases where the prices of unprocessed food have fluctuated significantly due to their seasonal behaviour are: the negative historical value of contribution in 2011: M12-2012: M03, which culminated in February with a negative contribution of 1 pp to the inflation rate (0.6 pp). The period 2015: M2 - 2015: M4, is characterized by a persistent increase of the food group contribution to inflation, culminating in April (contribution of this group 2.3 pp., Total inflation 2.3 %.). This has increased the uncertainties in the forecasting and formation of expectations in the short run of headline inflation and especially of unprocessed foods.

In summary, table 2 presents the seasonal factors divided by the two sub-periods M01: 08-M12: 12 and M01: 13 - M12: 18:

Table 2 Estimation of seasonal factors of unprocessed food inflation: 2008: M1- 2018: M12

Seasonal factors for the total period and according to the 2 sub-periods			
1st sub-period: M01:08-M12:12	2nd sub-period: M01:13 – M12:18	Total period: M01:08- M12:18	Changes in seasonal behaviors
2.51	4.82	3.77	Increase of impact (+)
3.63	5.37	4.58	Increase of impact (+)
0.79	1.19	0.98	Increase of impact (+)
-1.93	-2.37	-2.17	Increase of impact (-)
-4.89	-5.85	-5.33	High seasonality& increase of impact (-)
-4.15	–3.09	-3.57	High seasonality& decline of impact (-)
-2.96	-2.23	-2.56	High seasonality& decline of impact (-)
1.27	1.41	1.35	Increase of impact (+)
1.31	0.60	0.92	Decline of impact (+)
-0.22	-1.32	-0.82	Increase of impact (-)
-0.68	-2.24	-1.53	Increase of impact (-)
4.80	3.34	4.00	High seasonality& decline of impact (+)

Source: Author's estimate.

The empirical assessment of the importance of seasonal factors for the category of unprocessed foods shows that almost the whole year, is characterized by statistically significant seasonal fluctuations, except for January and September. Prior to 2008, seasonal factors were more concentrated in certain months (May, July and December) and with higher amplitudes. While the introduction of greenhouse products and improvements in the network, storage, distribution and marketing of these products, has affected the redistribution of seasonal effects throughout the year (Table 3).

Table 3. Regression results with seasonal variables for monthly unprocessed food inflation: 2008 - 2018.

Dependent Variable: DLOG(CPI_ Unprocessed foods)				
Method: Least Squares				
Sample (adjusted): 2008M01 2018M10				
Included observations: 130 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.050300	0.006523	7.711702	0.0000
@SEAS(3)	-0.029581	0.011297	-2.618394	0.0100
@SEAS(4)	-0.083425	0.011297	-7.384436	0.0000
@SEAS(5)	-0.143987	0.011297	-12.74516	0.0000
@SEAS(6)	-0.108287	0.011297	-9.585129	0.0000
@SEAS(7)	-0.092471	0.011297	-8.185103	0.0000
@SEAS(12)	0.040385	0.011668	3.461222	0.0007
@SEAS(10)	-0.057823	0.011297	-5.118275	0.0000
@SEAS(11)	-0.069420	0.011668	-5.949613	0.0000
@SEAS(8)	-0.020413	0.011297	-1.806862	0.0733
@SEAS(2)	0.040329	0.011297	3.569768	0.0005
R-squared	0.785291	Mean dependent var		0.006126
Adjusted R-squared	0.767248	S.D. dependent var		0.063414
S.E. of regression	0.030594	Akaike info criterion		-4.055235
Sum squared resid	0.111380	Schwarz criterion		-3.812598
Log likelihood	274.5903	Hannan-Quinn criter.		-3.956644
F-statistic	43.52374	Durbin-Watson stat		1.850796
Prob(F-statistic)	0.000000			

Source: Author's estimate.

The seasonality of the above category seems to have significantly impact on the monthly headline inflation, only in 5 months of the year. Decreasing during May, June and July and increasing in February and December, but with mitigating impacts (Table 4).

Table 4. Regression results with seasonal variables for headline inflation: 2008 - 2018

Dependent Variable: DLOG(CPI,0,1)				
Method: ARMA Maximum Likelihood (BFGS)				
Sample: 2008M01 2018M06				
Included observations: 126				
Convergence achieved after 3 iterations				
Coefficient covariance computed using outer product of gradients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001836	0.000763	2.406279	0.0177
@SEAS(5)	-0.011275	0.001640	-6.874853	0.0000
@SEAS(6)	-0.009895	0.001715	-5.770512	0.0000
@SEAS(7)	-0.006733	0.002372	-2.838885	0.0053
@SEAS(12)	0.009507	0.001846	5.150150	0.0000
@SEAS(2)	0.010855	0.001527	7.108105	0.0000
MA(12)	0.364546	0.094697	3.849606	0.0002
SIGMASQ	1.62E-05	2.22E-06	7.315489	0.0000
R-squared	0.749955		Mean dependent var	0.001780
Adjusted R-squared	0.732858		S.D. dependent var	0.008086
S.E. of regression	0.004179		Akaike info criterion	-8.034929
Sum squared resid	0.002044		Schwarz criterion	-7.832337
Log likelihood	515.2005		Hannan-Quinn criter.	-7.952622
F-statistic	43.86444		Durbin-Watson stat	2.180273
Prob(F-statistic)	0.000000			
Inverted MA Roots	.89+.24i	.89-.24i	.65+.65i	.65-.65i
	.24+.89i	.24-.89i	-.24-.89i	-.24+.89i
	-.65+.65i	-.65+.65i	-.89+.24i	-.89-.24i

Source: Author's estimate.

In conclusion, the weakening of the seasonal factor for some of the high seasonality months combined with the lower contribution by non-food category of goods, results as one of the determinants that the inflation rate in the last five years remains below the target Bank of Albania.

6. CONCLUSIONS

Implementing an inflation targeting strategy is mainly conditional on calculating an effective indicator that would represent inflation trend. The consumer price index is usually used to formulate and implement monetary policy.

The monthly value of inflation includes some subcomponents that may not be important to analyse the inflation and support monetary policy decisions. At the moment, most of the studies confirm that seasonal fluctuations should not be considered to the process of monetary policy decisions. However, there are also distinct views that argue that seasonal cycles can interact with economic cycles and even have a certain impact on the consumer's decisions, which would motivate their consideration in the decision-making process.

The study focused on seasonal price fluctuations in the Albanian economy to see what their origin is, but also to facilitate the analysis of the inflationary process. The Consumer Price Index and its main categories of goods and services were seasonally adjusted to analyse the size and evolution of the seasonal factor over a year. Thus, the study found that the greatest impact on seasonal fluctuations is determined by the seasonal factor of food prices, especially

unprocessed one. Following the seasonal fluctuations of unprocessed food, the overall seasonal factor of the series has moderately positive values in the first two months of the year. Then the seasonal factor becomes negative during the summer months. In August and September the seasonal factor returns to positive territory, but the seasonality in these is not very clear. Negative values are returned in October and November. The month of December represents the month where the positive seasonality of prices was more evident.

The study concludes that in the period 2008-2018, excluding short periods of time, the direction of fluctuation of seasonal factors within the year has not changed. On the other hand, the intensity of these factors after 2013 has changed, especially in the high seasonal months. Thus, the months of May, June, July and especially December have attenuated the intensity of the seasonal factor with direct consequences on inflation rate. When food contribution to the inflation rate begins to decline, due to the share of this group in the inflation basket (it accounts for about 40% of the basket over the years), the inflation rate will also fall, as being affirmed in recent years. During this period, under the conditions when non-food goods and services categories inflation also declined, the headline inflation remained below the Bank of Albania's target.

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CHALLENGES TO THE ALBANIAN ECONOMY FOR A SUSTAINABLE LONG-TERM GROWTH

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Albania decided to change its image in the early 1990s as a new, energetic country and confident to build its economy by relying on the free market. The country was arising from tabula rasa. Institutions, both economic and political ones began to get reorganized. Some of the most indispensable reforms that were undertaken concerned: the property rights; infrastructure, financial intermediation, taxation, price liberalisation, etc. One of the main challenges to the country was the reduction of the role the state had in the economy, which required the restructuring and privatization of state-owned enterprises. Initially, the privatization efforts focused on the small enterprises with up to ten workers, while the medium-term strategy aimed at promoting private enterprises in agriculture, industry and services.

The same reforms soon affected the banking sector, consisting of three state-owned banks, whose inefficiency in lending activity eventually led them to bankruptcy after some years. In such an environment, an informal private financial network, which later turned into a pyramid scheme, developed rapidly by financing the private sector, but at a very high cost. Thereupon, the medium-term strategy for the development of the banking sector in the mid-1099s aimed at: allowing the opening of private banks led by the market principles; the strengthening of legal framework to supervise the financial system; and the development of the banking system infrastructure.

During the first decade of transition there was a major transformation in the structure of the economy, resource allocation shifted from industry and agriculture to services and construction. The most significant changes were recorded in the contraction of the industry's contribution to GDP, from 39% in 1990 to less than 8% in 2000, while the services' contribution expanded from 33% to over 58%. Construction also recorded a drastic boom, from 3% of GDP in the early 1990s to nearly 12% of GDP in 2002. On the other hand, the importance of agriculture reduced by over 10 percentage points of GDP, after accounting for nearly one-third of the economy in 1993-96. This major structural transformation toward more productive sectors was accompanied by a sharp contraction of the states' role in the economy by a share of merely 25% in 2020.

In the second decade, economic policies aimed at sustained growth, based on the real factors rather than on the foreign aid. The improvements were noticeable in business and energy environments, financial sector, tax administration and public finance administration, which led to the shifting of the workforce toward higher performing sectors. Albania's economic and financial integration also increased significantly until 2008. Foreign trade

doubled to 85% of GDP, while capital and foreign investments tripled to over 82% of production. In the meantime, various indicators, showed that the macroeconomic stability during this period led to significant reduction of poverty in Albania, where the number of people in difficulty to meet the basic human need dropped to 1.2% in 2008.

The prudent fiscal and monetary policies also enabled the rapid growth of the banking system.

The privatization of the major state-owned banks in 2001 and 2004 fuelled some positive changes in the sector. Bank penetration into the economy was rapid, bank lending expanded from less than 5% of GDP in 2001 to about 37% in 2009. Meanwhile, the prudent reforms and measures taken by the Bank of Albania for maintaining the stability of the financial system that followed the collapse of the pyramid schemes succeeded in this regard. At a time when the global economy including our region, was suffering the consequences of the great recession in developed countries during 2008-2009, the Albanian financial system was relatively sound and withstood yet another major stress.

The impact of the global crises and the challenges in the future

The deepening of the global crisis in 2009 and the subsequent economic and financial problems in the euro area, had a significant impact on Albania, testing the model of economic growth supported, inter alia, by the rapid growth of bank lending. The pace of economic growth, reduced in half during 2009-14, largely driven by the decline in the country's potential output. National statistics show a significant contraction in the contribution of construction and services during the post-crises period, while assessments by the international institutions suggest that the decline in capital, especially in human capital, explains the slow growth during 2010-15, compared with the regional countries. However, in the recent years, Albania has experienced the highest rates of economic growth of nearly one decade, hoping that the worst has already been overcome. The medium-term economic outlook from both the domestic and prestigious international institutions is generally favourable. Projections for the coming years suggest that the economic activity will aim to reach at potential levels, driven mostly by consumption and investments in the economy. The forecasts show that demand will continue in the medium-term for new construction and investment in the sector, also due to the damage caused by the major earthquake that hit Albania last November. For this reason, most of the savings will go for construction, curbing to some extent the potential of investing in other areas of production that could provide a sustainable growth of our economy in the future.

Predicting the future is essentially impossible, yet this fact doesn't stop us from foreseeing what might happen and prepare ourselves beforehand. There is a long list of challenges to policy-makers in Europe. The trade conflict between the world's most powerful economies, the vagueness associated with Brexit, the concerns of developed countries relating emigration, economic polarization in

Europe, and the financial-economic fragility in some EU member states etc., have increased the general scepticism about the benefits from globalization and have questioned the current political and economic order. The solution of these issues is expected to shape the outlook of the developments in the South-east Europe.

So far, economic reports show that foreign investments, which are very important for the development of our region, remain generally at satisfactory levels, despite the slow economic growth in the euro area. However, fluctuations in economic activity in the euro area and more broadly may dampen the enthusiasm for greenfield investments in the future. Foreign investment attraction and future economic growth will depend on the ability of the economy to reduce the created gap. Therefore, prioritization of 'complementary factors of production' is necessary to support the rapid economic growth. Discussing which sectors of the economy (agriculture, tourism, industry, etc.) should be developed to promote the future economic growth is beyond the scope of this material. But what needs to be emphasized is that the state with all its mechanisms can play a facilitating role in this process, by improving the business climate so private firms can prosper.

Moreover, the major constraints to the further growth of the Albanian economy appear to be due to insufficient both human capital and a more sophisticated infrastructure. Expectations for a significant demographic contraction in the not-too-distant future raise many questions about the possibilities of economic growth. This requires increase of productivity through investments and adoption of technology that can foster convergence with the Western Europe, help reduce the wage gap, and thereby curb migration flows. But this largely depends on the necessary human capital that is created through education and professional skills. The time has come for education and training of the workforce to be placed on top of the country's priority list. Also, the strong economic growth model in the long run requires special attention in further improving the "traditional" infrastructure as well as the information and communications technology infrastructure.

Opportunity and challenges to the financial sector

In addition to global trends and the regional economic perspective, the transformation that is taking place in the financial sector poses another challenge, related to the restructuring of banks in the region, the enhancement of the regulatory framework of the financial system, and technological innovations especially in payment instruments. All these challenges have inherent implications for regulating and supervising the financial system, as well as for their implementation in order to increase market efficiency and improve central bank policy effectiveness through the banking sector.

Overall, the latest data from the Bank of Albania show that the banking sector appears to be sound. It is encouraging to know that non-performing loans have significantly reduced, owing to repayments, write-offs of lost loans, and

of course measures taken for the loan restructuring. Moreover, commercial banks' stress tests are assessed as satisfactory, due to the low exposure of the financial system to market risks, capitalization, and the level of liquid assets higher than the minimum required by the regulatory framework of the central bank

However, the recent increase in bank deposits in foreign currency may be seen as a concern. This development reflects the widespread presence of the foreign currency in the economy of Albania, which under certain conditions may threaten the financial stability. This has urged the Bank of Albania to undertake concrete actions pursuant to the Inter-Institutional Memorandum on Strengthening the Use of Domestic Currency in order to reduce the use of foreign currency in the economy.

It is deemed that the presence of foreign investments in the banking sector, both for manufacturing and extractive industries, accelerates the development of the host country, in line with advanced economies through increase of efficiency, higher transfer of technology, higher wages and more opportunities. However, after the global financial crisis, advanced countries which were hardest hit by the crisis appear less and less interested in maintaining investments abroad. Their restructuring requires careful management. Whatever direction the strategy of developed countries will take, our institutional commitments should continue toward the liberalization of financial services market, and the initiatives taken to strengthen the coordination of the regulatory framework and supervision.

The central bank should continue to maintain the current appropriate supervision approach, to ensure that financial activity continues to be carried out according to the best standards of governance, to provide the conditions for a substantial financial, human, financial and technical support, so in turn to bear the fruit for a sustainable economic growth in the function of welfare, employment and social cohesion.

WAGE DIFFERENTIALS AS AN OUTTURN OF SECTOR OF EMPLOYMENT, FORMAL EDUCATION LEVEL AND OCCUPATIONAL CLASSIFICATION IN ALBANIA

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ABSTRACT

Inquiring into the income distribution attributes of a country's labour market is one of the main engagements of labour economics. The behaviour of Albania's labour market with respect to the distribution of wages remains largely unexplored from a microdata perspective. This article adds to the domestic economic research stock by conducting a threefold assessment on the state and dynamics of the public-private sector wage gap, wage premiums of the three main educational attainment levels, and wage differentials between ten main occupational classifications. The above is achieved by analysing four waves of household survey data, gathered during the 2002-2012 period by Albania's Institute of Statistics, through the methical approaches utilized in the human capital framework. The main findings for the considered sample at hand and the investigated timeframe are: [1] the public sector paid about 2.5% more than the private sector, and the inter-sectorial wage gap displays an increasing trend; [2] university graduates were paid about 50% above the average amount of wages received by high school graduates; [3] "Skilled agricultural and fishery workers" resulted the only occupational classification positioned below wages average that displayed a declining trend, away from the mean, throughout the investigated period.

Keywords

INTRODUCTION

The Albanian labour market remains a scarcely explored research terrain when it comes to statistics concerning its main constituents. Most of the available macroeconomic data series, including labour market series, are comprised of relatively short timespans and display serious data reliability issues (Fullani, 2005), making it challenging to conduct assessments and to develop research-driven policies. Thus, it becomes necessary to gather information, obtaining in turn findings and results, from the wealthiest sources of empirical microeconomic content – individual, household, and economic unit based surveys.

The focus of this research is to unveil some of the main wage distribution attributes of our domestic labour market – namely: wage differentials resulting

from an individual's choice of employment sector, educational attainment, and occupational classification – relying upon the human capital methodical framework and employing the economic micro data available for Albania. The most comprehensive survey offering such data is Albania's LSMS, a multi-purpose information retrieval effort carried out from 2002 onwards by INSTAT at a household level (Living Standard Measurement Survey, 2014), which also supplies microeconomic data. The stored information includes fields such as the subject's present monthly earnings from employment, and otherwise, the subject's age, gender, completed years of formal education, employment tenure, etc.

Based on summary statistics information, the research hypotheses are: [1] on average, the Albanian labour market distributes private sector wages which are lower than those distributed by the public sector, and [2] provided that skilled agricultural and fishery workers invest the lowest number of years in formal education, this classification of employees is expected to average the lowest wages. This research's main results are summarized below:

- The public sector has provided, over the investigated period, a 7% wage premium compared to the private sector level of wages; the private sector offered higher wages in 2002, but starting from 2005, the inter-sectorial wage gap has displayed an increasing trend whereby the public sector has constantly paid more;
- The average wage premium of high school graduates over employees with basic education amounts to about $1/4^{th}$, and that of university graduates over high school diploma employees amounts to about $1/2^{nd}$;
- Wage differentials among occupational classifications show that skilled agricultural and fishery workers averaged the lowest wages (about 3/5ths below the average), while legislators, senior officials and managers averaged the highest (about $2/5^{ths}$ above the average).

The article is structured as follows. Section I offers a general review of the empiric literature in which article's methodical approach is based. It lists the main contributors of the human capital theoretical research, and it explores their methodology techniques. It also ponders upon the empirical works of contemporary authors whose research works have had a focus comparable to this one. Section II details the methodology applied in order to obtain the research results and lists the two hypotheses included in this research. Section III provides a detailed summary of the LSMS data attributes. Section IV presents the research results and findings. Section V brings the article to closure through a list of conclusions and implications pertaining to its results and findings.

SECTION I: LITERATURE REVIEW

Human capital acquisition theory posits that the competitiveness of a country in the global market depends on the skill acquisition opportunities that a country provides to its labour force. Hence, high levels of educational attainment and on-the-job training will yield economic competitiveness, which will in turn result in prosperity and low levels of unemployment (Francis & Skelton, 2005). The

basic operational concept revolving around this theory, best known as the human capital earnings function, maintains that the distribution of one's net investment in human capital and that of one's earnings are related (Mincer, 1974). In this context, the strivings of a workforce participant in formal education and work experience should in principle be associated with higher levels of compensation in the labour market. Having said the above, it is clear that additional factors associated with an employee's wage level, such as working hours, employment sector, occupational classification and gender, need to be taken into account.

Human capital empirical research had its foundations set in the '60s and '70s by the pivotal works of coeval American economists Schultz, Becker and Mincer. Their efforts were directed towards the conceptualization of human capital as a personal investment pursuit and the proposition of elaborate econometric frameworks that would embody this concept in the empirical domain. The most noteworthy of these frameworks is the well-known "Mincer's earnings function", proposed by Mincer in his influential publication "Schooling, Experience and Earnings" (1974). Blinder & Oaxaca added to this body of empirical research by investigating, during the same time period, into the causes of wage differentials among workforce participants attributable to subject's innate characteristics such as race and gender, contributing through a series of proposed decomposition methods, later synthesized into what is formally known as the "Blinder-Oaxaca decomposition method."

Subsequent research strivings in this field, such as Hirsch (1978), and more recently Suh (2007), Depalo, et al. (2013), Abel & Deitz (2014), etc., sought ways to incorporate Blinder and Oaxaca's ideas into the structure of the Mincerian function, mainly with the aim of comparing labour market earnings categories, such as countries, industries, occupations, races, age groups, and so on. Augmented versions of the Mincerian function have in recent decades been used for a multiplicity of economic assessment purposes tackling the matter of labour market earnings, the rationale for the augmentations being that an individual's earnings cannot be fully explained through his human capital level alone, therefore including additional explanatory terms may better capture the variability of the regressand.

To the best of our knowledge, there are two empirical studies employing the human capital earnings function and focusing exclusively on the case of Albania: Gjipali & Kristo (2011), and Psacharopoulos (2017). Both studies utilize Albania's LSMS cross-sectional data, of years 2002 and 2012 respectively. Gjipali & Kristo's (2011) study investigates into the effects of secondary and tertiary education completion on Albania's workforce private earnings and human capital building, whereas Psacharopoulos' (2017) study targets the broader goal of assessing country-wise financial losses incurring from the current level of underinvestment in formal education. Their findings, based on their respective versions of the earnings function, are in line with each-other, in that they both show significant and positive relationships between additional time invested in formal education and private labour market returns. The undertaking of this research project was driven by an insufficiency of informed awareness of the prevailing wage gap between the public and

private sectors in Albania. During the conduction of this research it was aimed to utilize LSMS microdata – consisting of four survey input streams pertaining to 2002, 2005, 2008, and 2012 respectively – to conduct a three-fold investigation on the state and dynamics of:

[i]   Albania's prevailing public – private sector wage gap;
[ii]   the wage premiums of three main formal education attainment levels (elementary, secondary and tertiary) compared to a control group of workforce participants not invested with an elementary school diploma;
[iii] the wage differentials between the main ten occupational classifications, [as defined by the International Labour Organization standards; see ISCO-88, (Hoffmann, 1999)];

during the 2002-2012 timespan.

It is important to stress the fact that, in order to retain survey reporting consistency, the analysis considered only of data gathered from full-time workers who were on the payroll plan of a third party employer for no less than 1 year prior to the survey. The above was attained by sorting out subjects that, during the last year leading to their survey interrogation, reported:

• unsteady or irregular salaries;
• part-time, seasonal, or project-based employment;
• family run or self-employment;
• periods of unemployment or economic inactivity.

The main question to be answered after conducting this study's empirical investigation is: What are the wage gaps between: [i] private and public sectors of employment; [ii] the main ten occupational classifications; [iii] the main attainment levels of formal education, in Albania, and how have they progressed over the 2002-2012 timespan?

The study differs from past studies of this research focus on Albania, in that it utilizes LSMS microdata consisting of four survey input streams pertaining to 2002, 2005, 2008, and 2012 respectively, and reports findings on the state and time dynamics of prevailing wage gaps across sectors of employment, levels of formal education, and occupational classifications. Its added value to the existing literature on Albania consists in the fact that it determines which sector of employment provides higher returns during the 2002-2012 timespan (Gjipali & Kristo report wage gap results related to the sector of employment for 2002 only; this study tracks the sector of employment wage gap progression up to 2012). It also delivers an incremental rank of private returns by occupational classification.

Considering the above-cited literature, this research study is conceptualized to employ the human capital earnings function so as to explore the effects that an individuals' human capital, sector of employment, and choice of occupation may have on their private earnings derived from employment in the Albanian labour market. Its scope is to perform an econometric analysis aimed at

determining which sector (private or public) offers higher private earnings, and at identifying any wage-derived earning gaps across the main formal education levels and the main occupational classifications.

SECTION II: METHODOLOGY

Based on the literature review (Hirsch (1978), Lemieux (2006), Gjipali and Kristo (2011), and Abel and Deitz (2014), the econometric instrument, fitted to the four available streams of data, is specified as follows:

(1) *(base specification)* $LWag_t = LWag_{0,t} + \alpha Edu_t + \beta_1 Exp_t + \beta_2 Exp^2_t + \delta Hour_t + \varphi Male_t + \varepsilon_t$

(2) ---- (1) ---- $+ \theta Sect_t$

(3) *(αEdu_t omitted)* ---- (1) ---- $+ \sum_{i=2}^{4} \pi_i LE_{i,t}$

(4) ---- (1) ---- $+ \sum_{j=2}^{10} \omega_j Occ_{j,t}$

Where the above denotations are detailed below:

t one of the four survey input years (2002, 2005, 2008, and 2012) incurring the regression fit;

$LWag$ regressand – natural logarithm of monthly private earnings;

$LWag_0$ intercept – natural logarithm of monthly private earnings that would theoretically be obtained in the absence of formal education and labour market experience;

Edu continuous regressor – number of completed years of formal education;

Exp continuous regressor – number of years of potential[1] labour market experience, approximated as Age – 6 – E;

Exp^2 quadratic term of X – ensures earnings' declining concave during latter years of working career;

$Hour$ continuous regressor – number of typical working hours in a week;

$Male$ dichotomous dummy – denotes subject's gender, assigning each observation a 1 for man, and 0 for woman;

$Sect$ dichotomous dummy – estimates earnings gap between sectors of employment, assigning each observation a 1 in case of public employment, and 0 otherwise;

LE_i set of dummies - estimates earnings premiums of the three main attainment levels of formal education (elementary, secondary, tertiary), compared to a control group of those with no elementary education diploma, assigning each observation a 1 for the respective attainment level of formal education i, and 0 otherwise;

Occ_j set of dummies – estimates earnings differentials between ten ISCO-88 occupational classifications compared to an earnings grand mean, assigning each observation a 1 for the respective occupational classification j, and 0 otherwise.

(1) is the model's base specification and it is included in the assessment procedure solely to provide mean results for the entire sample; (2) is utilized

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[1] *Mincer introduced the measure of potential labour market experience as a standard regressor of the earnings equation in his influential article "Schooling, Experience and Earnings" (1974), to approximate the timespan of a working individual's age, minus pre-school years, minus formal education years (Lemieux, 2006).*

to differentiate between sectors of employment; (3) between attainment levels of formal education; and (4) between occupational classifications. To perform calculations, control variables Edu, Exp, Hour and Male (respective sample's ratio) are kept at respective sample's mean values. It is worth noting that, since variables Edu, Exp, Hour and Male are different across sectors of employment, formal education attainment levels and occupational classifications, the category-specific averages of the observed wages will also differ from the output delivered by the set of equations above. In order to adhere to the ceteris paribus principle, the central tendency output delivered by the model is preferred over wage averages obtained by descriptive statistics.

The introduction of Hour is a key characteristic of the model. Even though Mincer refrained from "theoretically integrating the hours of work and human capital investments" into model (iv) (Mincer, 1974), later in his research he pointed out that hours worked are an important determinant of wages since, particularly in the experienced labour force, it was observed that "reduced wage gains are traded off for preferred changes in hours" (Mincer, 1986). Weekly hours of work were consistently reported in all LSMS micro data streams, and Hour's marginal effect is expected to be significant in all regression fits.

Hirsch (1978) and Suh (2007) split the data at their disposal, by occupational classification and sector of employment respectively, so as to obtain regression fits and report results for reach data category. Because of the limited number of observations in separate categories, such data splits did not produce meaningful output in our case, hence, it was deemed feasible to utilize dummy terms in order to differentiate between sector of employment and occupational classifications in our cross-sections.

SECTION III: SUMMARY STATISTICS

This research study utilizes four survey data streams, pertaining to 2002, 2005, 2008 and 2012, containing an overall number of 14`863 observations. Information on these data streams is adequate enough to be analysed cross-sectionally in order to derive meaningful results related to the focus of this research. Table 1 provides an informative summary of the data characteristics. Occupational classifications are adopted by a 2017 executive order of Albania's Council of Ministers, and retain the original ISCO-88 coding, as detailed in Annex 1.

Table 1 Division of sample's subjects among sectors of employment and educational attainment level.
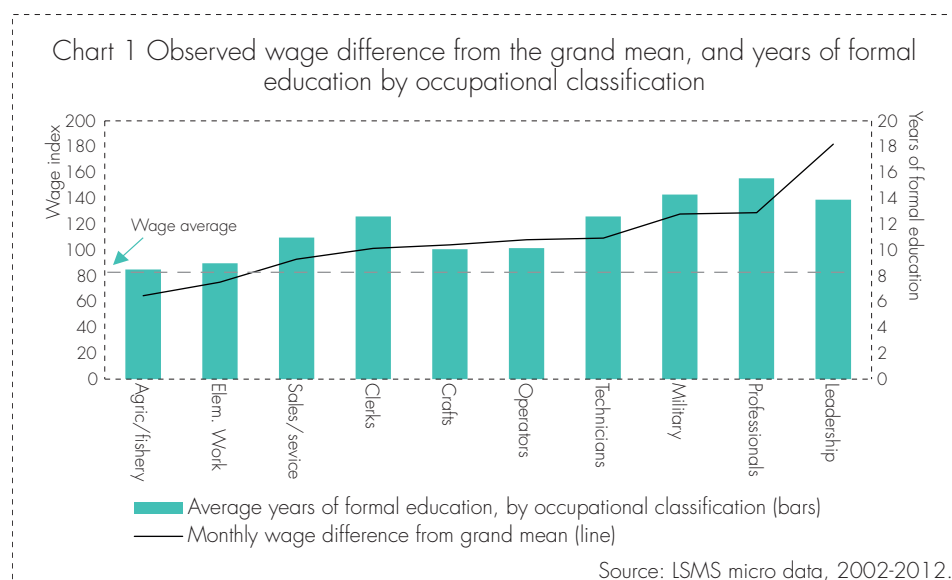
		Sector		Level of education			
		Private	Public	No diploma	Primary	Secondary	Tertiary
Year	2002	52%	48%	3%	30%	45%	22%
	2005	71%	29%	5%	35%	45%	15%
	2008	72%	28%	3%	40%	41%	16%
	2012	73%	27%	3%	32%	37%	28%
Total	Number:	10194	4669	540	5112	6125	3086
	Ratio:	69%	31%	4%	34%	41%	21%
		100%		100%			

Source: LSMS micro data, 2002-2012

The four datasets at hand reveal a weighted mean of 31.4%, with regard to the combined share of employment in the public sector. It is worth underlining, however, that this share was particularly high in 2002 (about 48%). This may have partly been as a result of an idleness of detachment from a deteriorating centralized infrastructure of employment inherited form the country's previous political system, and partly because of sampling variation. However, the public sector employment rate has displayed a declining trend ever since, with about 29%, 28% and 27% in 2005, 2008 and 2012 respectively.

Formal education carries on for about 10.2 years among private sector employees, while among public sector employees, about 13.3 years (one standard deviation higher). The graph in Annex 2 displays a visual comparison of the private and public sector the education-earnings profiles. As Graph 1 shows, by and large, public sector pays consistently higher that the private sector – at least up to the 15th year of formal education. Those who hold a university degree and above and employed in the private sector, seem to receive a somewhat higher wage compared to those employed in the public sector (and even in this case we are dealing with a rather small portion of the sample – about 13% – so sampling variation could also play a role).

Graph 1 delineates the correlation between average years of education and observed wage level by occupational classification. By and large, those occupations that average fewer years in formal education reach wage levels that are either about or below the average wage level, while those averaging a higher number of years in formal education reach wage levels that are well above the average.

Chart 1 Observed wage difference from the grand mean, and years of formal education by occupational classification

Source: LSMS micro data, 2002-2012.

Considering the details laid out above and taking into account the tenets of human capital acquisition theory (Mincer, 1974; Francis & Skelton, 2005), the author's expectations are that private sector wages should normally be lower than public sector wages, and the occupations averaging less years of formal education will average lower wages. The above-listed study's hypotheses are based on these premises.

The rationale behind these assumptions is that, on average, individuals employed by the public sector invest about 3.1 years more in formal education compared to those employed in the private sector, thus their returns on human capital investment are expected to be higher. By the same token, the occupational classifications investing the lowest amount of time in formal education will likely average the lowest wages, and those classifications investing higher amounts of time in formal education will average higher wages.

SECTION IV: RESULTS, FINDINGS AND COMPARISONS

he output below shows the results of an all-inclusive repeated cross-sections regression fit, as per base specification (1) in the methodology section, performed on all available observations. It includes R-square, number of observations, and significance probability values (shown in parentheses).

$$
\begin{aligned}
LWag = \quad & 8.3562 \; LWag_0 \; + \quad 0.0787 \; Edu \; + \quad 0.0168 \; Exp \\
& \;\;(0.000) \qquad\qquad\;\; (0.000) \qquad\qquad\; (0.000) \\
- \quad & 0.0003 \; Exp^2 \; + \quad 0.0108 \; Hour \; + \quad 0.3182 \; Male \\
& \;\;(0.000) \qquad\qquad\;\; (0.000) \qquad\qquad\; (0.000)
\end{aligned}
$$

$$R^2 = 24.3\%$$
$$\text{Obs:} \quad 14{,}863$$

The above output delivers the following results for the Albanian labour force employed during the 2002-2012 timeframe:

Bearing that all other labour market conditions are kept identical:

1. each additional year of an employee's formal education accounted for an average increase of 8.2% in his wage-derived earnings;
2. each additional year of an employee's labour market experience accounted for an average increase of 1.7% in his wage-derived earnings;
3. each additional working hour per week accounted for an average increase of 1.1% in an employee's wage-derived earnings;
4. males received an average of wage premia amounting to 37.5% above female wages.
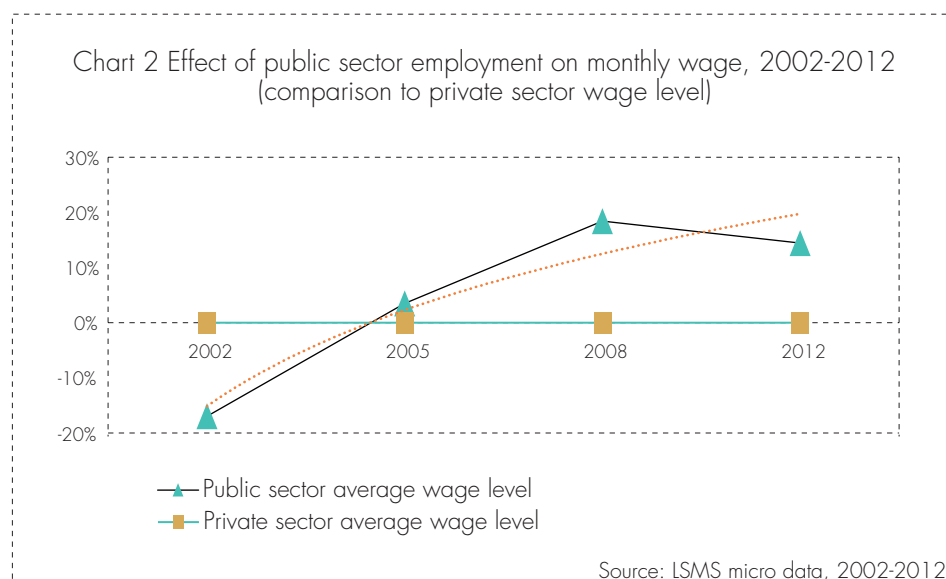
Regarding Hypothesis 1, assuming an inflation-adjusted wage level and provided that all other conditions are kept unchanged, the output of a repeated cross-sections regression fit as per specification (2) reads that, over the investigated ten year timespan, public sector employees' wage-derived earnings result 2.5% higher than those of private sector employees (the sector variable comes out statistically significant at the 5% level). This outcome confirms Hypothesis 1, evidencing that on average the Albanian public sector pays higher wages. It should be noted, however, that when data is fitted for separate samples, this result comes out dissimilar across datasets. As it can be observed in Graph 2, in 2002 the marginal effect was negative: – 17%. This corroborates the findings by Gjipali and Kristo (2011) that, in 2002, "the public sector paid less than the private one." However, estimations show that this negative effect upturned to a positive

one in 2005, and remained such throughout the investigated period. In 2012, the wages of public sector employees tuned out 14% higher than those of private sector employees.

$$LWag = 8.7731 \; LWag_0 + 0.0217 \; Exp - 0.0004 \; Exp^2 + 0.0113 \; Hour$$
$$(0.000) \qquad (0.000) \qquad (0.000) \qquad (0.000)$$

$$+ 0.3317 \; Male + 0.1335 \; Elem\_ed + 0.3836 \; High\_sc + 0.8772 \; Univ$$
$$(0.000) \qquad (0.000) \qquad (0.000) \qquad (0.000)$$

$$R^2 = 25.9\%$$
$$Obs: \quad 14,863$$

Chart 2 Effect of public sector employment on monthly wage, 2002-2012 (comparison to private sector wage level)

Source: LSMS micro data, 2002-2012.

Regarding wage-derived earning gaps across the main formal education levels, calculations based on the output obtained from a repeated cross-sections regression fit as per specification (3) (shown above) shows that in comparison to a control group of employees void of any formal education: [1] the acquirement of an elementary school diploma accounts for an average increase of 14.3% in the monthly wage level; [2] the acquirement of a high school diploma accounts for an average increase of 46.8% in the monthly wage level, and; [3] the acquirement of a university degree accounts for an average increase of about 140.4% in the monthly wage level. Alternatively, an employee with a high school diploma earned in a month 25% more one with an elementary school diploma, while an employee with a university degree earned in a month 49.3% more one with a high school diploma. As a matter of comparison, wage premia of high school graduates, over employees with elementary education, in Europe ranges anywhere from 8% to 78%, where most developed economies of Western and Northern Europe appears to be displaying lower wage premia, while transitioning economies of Eastern Europe typically display higher wage premia (Badescu, D'Hombres, & Villalba, 2011). Albania's 25% average wage premium of high school graduates falls somewhere in the middle of the aforementioned range for Europe.

Chart 3 Monthly earning averages and trends by level of educational attainment for each cross-section, during 2002-2012
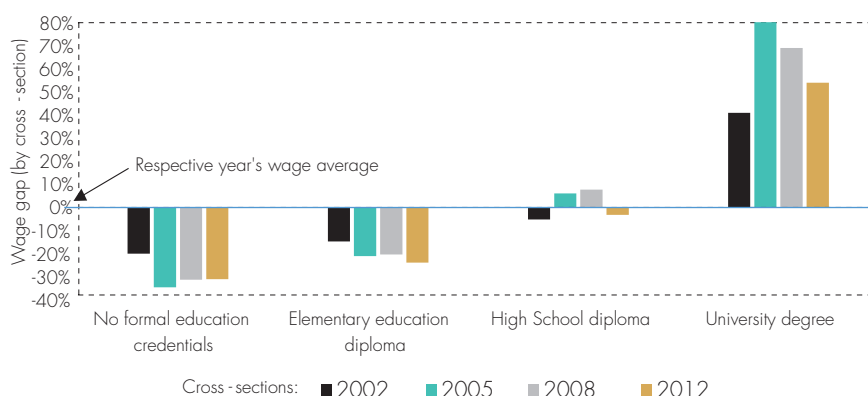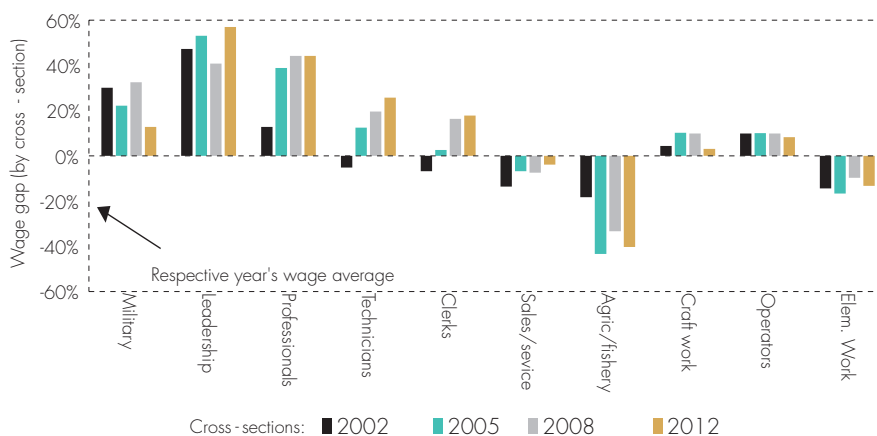
Source: LSMS micro data, 2002-2012.

In terms of Albania's comparison to the neighbouring region, the two tables in Annex 1 inform: [1] how Albania ranks amongst its neighbours in public sector wage premia, and; [2] how it compares other developed countries and transitioning economies in Europe when it comes to relative earnings by educational attainment.

Graph 3 allows for a better understanding of monthly earning averages and trends in regard to the respective year's average, for each of the formal education levels. Wages of employees with no formal education credentials and with an elementary education diploma display a downward trend in relation to the grand mean. Wages of employees with a high school diploma tend to stay about the mean. Wages of employees with a university degree seem stationed at around 55% above the mean (with s falling tendency in the latter years of the investigated period).

Chart 4 Monthly earning averages and trends by occupational classification for each cross-section, during 2002-2012

Source: LSMS micro data, 2002-2012.

Based on regression output obtained from specification (4), Graph 4 offers the same visual breakdown as in Graph 3, this time for each of the occupational classifications. It is apparent that skilled agricultural and fishery workers averaged the lowest wages (about 37% below the average), while legislators, senior officials and managers (closely followed by professionals) averaged the highest (about 50% above the average), during the investigated period. Wages of leadership personnel, professionals, technicians, clerks, and sales and service workers, all display rising trends, while only the wages of armed forces and agricultural and fishery workers appear to have declining trends over the investigated period. Furthermore, the graph shows that the wages of agricultural and fishery workers solely exhibit an away-from-the-mean declining trend.

Pertaining to gender-related differences in wage-derived monthly earnings, a repeated cross-sections regression fit as per specification (1) delivered a 37.5% gap between men and women, indicative of a substantial gender-related disparity in monthly earnings during the 2002-2012 period.[2]. Output of regressions performed on separate samples shows, however, that this gap displayed a declining tendency throughout the investigated period, narrowing to about 28.5% in 2012 (see Table 2).

Lastly, on the subject of controlling for potential issues of unequal residual variance, econometric literature draws attention to regression fit procedures that compute Huber–White estimators (White, 1980). Assuming normality, such procedures generate more efficient estimators by anchoring the fit towards the more precise observations (i.e. those with smaller squared residuals) while attributing less weight to potential outliers (Froot, 1990). All regression fits in this research study are performed employing this technique.

SECTION V: CONCLUDING REMARKS

The main objective of this study was to carry out an empirical assessment of the wage differentials – related to a selection of employee categories such as the sectors of employment, attainment levels of formal education, and occupational classifications – that prevailed in Albania during the 2002-2012 period.

Estimations reveal that the public sector monthly earnings premium emerged only during the last 7 years of the investigated period (2005-2012); in 2002, a private sector monthly earnings premium was prevalent.

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[2] An additional regression fit with the total number of observations (from all four samples), with inflation-adjusted hourly wages as a regressand, delivered a 33.8% gap between the hourly wage averages of men and women. Although this figure is about 4 p.p, lower compared to the monthly wage gap, it indicates that even with hours of work accounted for, the gender related wage difference in Albania persisted and was substantial during 2002-2012.

With regard to wage differences between the three main levels of formal education, data show that employees with a high school diploma seem to be mean setters in the labour market. The average wage premium of high school graduates over employees with basic education amounts to about 1/4th, and those of university graduates over high school diploma employees amounts to about 1/2nd. The above is evidence of the premise that the Albanian labour market seems to provide luring private return conditions for its highly educated domestic labour force. A university degree ensures a significant wage boost for the typical Albanian employee, one which truly gets across the worth, and the reasons for common people's high appraisal, of university schooling in Albania.

A declining trend is noticed in the wages of university graduates in the latter years of the investigated period (specifically from 2005 onwards). This may be due to the fact that the supply of university graduates entering the domestic labour market has increased with time, hence labour demand has been adjusting accordingly by offsetting the wages of this category of employees.

In reference to wage differentials among occupational classifications, the main distinction is that, besides being consistently positioned below the wage average, the wages of agricultural and fishery workers maintained a declining trend throughout the investigated period. The above leads to the inference that the jobs pertaining to this occupational classification comprised the least appealing occupational activities of the Albanian labour market during 2002-2012. Assuming a continuation of the wage level decline for this occupational classification in current years, the government, in cooperation with the network of financial intermediaries in Albania, should embark on providing policies and programs that encourage product quality improvements in the agricultural and fishery industries. Such measures should be planned with the aim of stimulating domestic consumption of these industries' products, which would directly impact their returns, leading thereafter to higher employee wages in this occupational classification.

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ANNEX 1

Code	Occupational classification:	Notable occupations in this classification:
0	Armed forces	Military officer, major, sergeant, professional, soldier, weapon dismantler, national guard officer.
1	Legislators, senior officials and managers	Company/sector/school director, business owner, administrator, business/company/branch manager
2	Professionals	Engineer, accountant, lawyer, physician, teacher, college instructor, economist, agronomist, health inspector, journalist, IT.
3	Technicians and associate professionals	Nurse, veterinary, lab technician, construction technician, tax collector, operations supervisor, desk secretary, police commissary, cameraman.
4	Clerks	Cashier, currency dealer, receptionist, storekeeper, merchandise supplier, bookkeeper.
5	Service workers and shop and market sales workers	Police officer, security guard, shop assistant, merchant, cook, baker, waiter, bartender, barber, hairdresser, aesthetician, sanitarian.
6	Skilled agricultural and fishery workers	Crop grower, herder, farmer, shepherd, fisherman, gardener, bee keeper.
7	Craft and related workers	Construction master, craftsman, tailor, electrician, plumber, painter, metalworker, welder, cobbler, butcher.
8	Plant and machine operators and assemblers	Taxi/truck driver, miner, production line/factory worker, heavy equipment operator.
9	Elementary occupation workers	Construction worker, costermonger, food and pizza deliverer, stevedore, building custodian, road sweeper

ANNEX 2

Chart 5 Wages differences based on education, Education-earnings profiles for private and public sector employments (full sample 2002-2012)
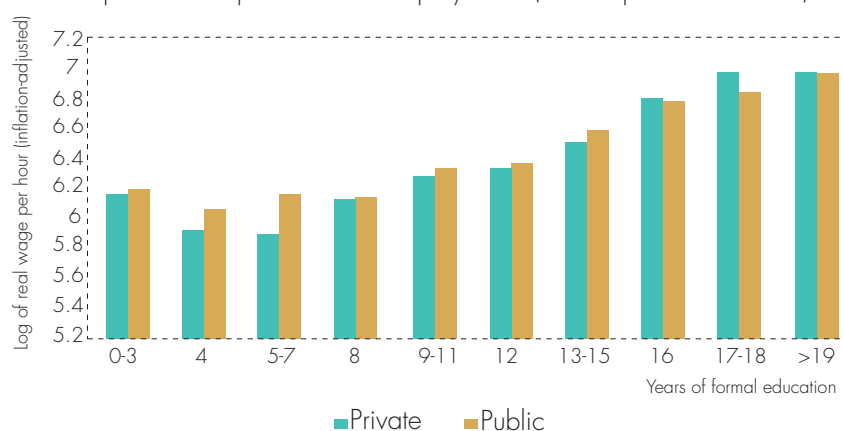
Source: LSMS micro data, 2002-2012.

ANNEX 3

Sector and education related wage premia in Albania in comparison to the neighbouring region.

Table A Public sector wage premia in the neighbouring region

Country:	Premium:		Survey timeframe:	Source:
Greece		35.7%	2004-2007	Depalo et al. (2013)
Italy		28.3%	2004-2007	Depalo et al. (2013)
Slovenia		29.7%	2004-2007	Depalo et al. (2013)
Kosovo	(men only)	20.9%	2011	Shehaj et al. (2015)
Serbia		19.3%	2008-2011	Vladisavljevic et al. (2017)
Albania		16%	2008-2012	Findings of this research study
N. Macedonia		15.7%	2008-2011	Vladisavljevic et al. (2017)

Table B Relative earnings in selected countries by educational attainment

	Wage indices for given educational levels (Secondary = 100):			
Selected countries:	Elementary:	Secondary:	Tertiary:	Survey timeframe:
Sweden	81.7	100	119.6	2016
Norway	76.4	100	130.3	2016
Denmark	81.2	100	130.9	2016
Estonia	88.6	100	134	2016
Italy	77.8	100	138.5	2014
Greece	77.3	100	139.6	2016
Austria	68.7	100	146.2	2016
Finland	98.2	100	147.2	2015
Latvia	89.2	100	147.5	2016
Poland	82.8	100	156	2016
Albania	78.2	100	156.7	2002-2012
Slovak Republic	64.8	100	167.9	2016
Czechia	74.3	100	169.3	2015
Turkey	71.8	100	171.3	2016
Lithuania	85.7	100	179.3	2014
Hungary	76.1	100	194.1	2016
European Union average	79	100	150.9	2014-2016
United States	74.2	100	174.9	2016

Source: OECD.Stat (2019) data and metadata repository, and findings of this research study